

FIFTH EDITION

ENGLISH—INCHES.



FRENCH—CENTIMETRES.



NOTES AND QUERIES
ON
ANTHROPOLOGY

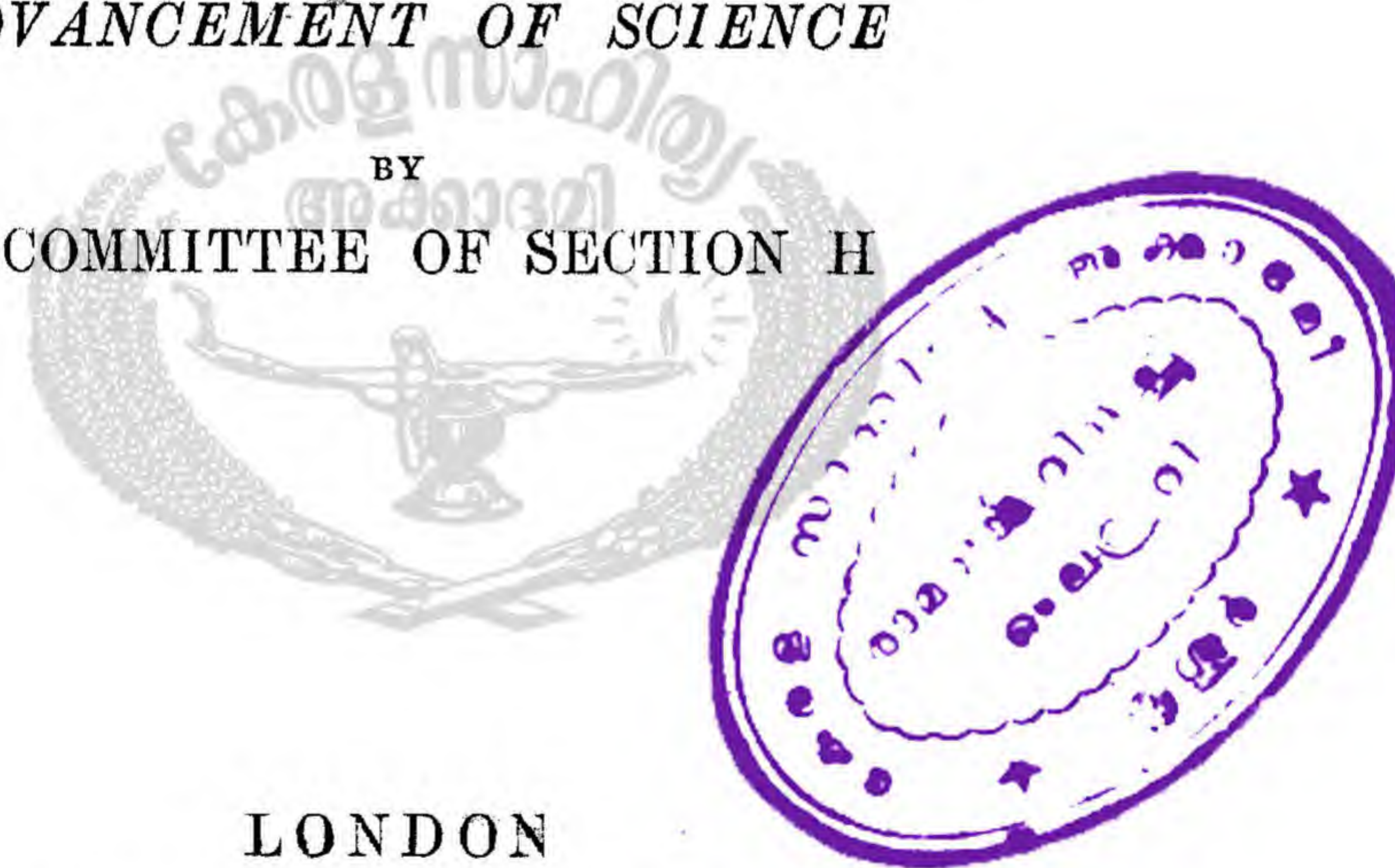


NOTES AND QUERIES
ON
ANTHROPOLOGY

FIFTH EDITION

EDITED FOR THE
*BRITISH ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE*

BY
A COMMITTEE OF SECTION H



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PREFACE

The First Edition of NOTES AND QUERIES ON ANTHROPOLOGY was published in 1874 by the British Association for the Advancement of Science "to promote accurate anthropological observation on the part of travellers, and to enable those who are not anthropologists themselves to supply the information which is wanted for the scientific study of anthropology at home."

In the Second Edition, published in 1892, various sections were entirely recast. A Third Edition appeared in 1899 with relatively slight alterations.

The Fourth Edition of 1912 was subjected to more drastic treatment. It was agreed that "its contents should be rearranged on some scientific scheme of classification, which would show clearly the main divisions of the science, and the relations of the subject to one another; that a general chapter on anthropological method should be included; that the vital connection of religion with most of the subjects of inquiry should be emphasized; that investigations into language, anatomy, physiology, psychology, and medical matters, which necessitate a high degree of technical knowledge in the investigator should be excluded or very slightly treated." In Physical Anthropology, the work of the Editors was very much lightened by the publication, through another Committee of the British Association, of a full series of anthropometric standards, with precise directions for employing them.¹

It was also agreed "that narrative form should as far as possible be substituted for the old lists of 'leading questions';

¹ This *Report of the Committee on Anthropometric Investigation* (Proc. Brit. Ass., Dublin, 1908, p. 315 ff.) has been published separately by the Royal Anthropological Institute, 52, Upper Bedford Place, Russell Square, London, W.C.1, 1909. Price One Shilling.

and that care should be taken to define technical terms and provide precise English nomenclature for the chief classes of processes and things which anthropologists have to describe."

The present Fifth Edition has carried on these traditions. Not only has a new re-arrangement been deemed necessary, but also a critical scrutiny of every paragraph. In a few sections, mainly those dealing with Material Culture, there has not been very much to alter, though many of them have been entirely re-written. In the case of Social Anthropology, of which Magic and Religion now form an integral part, it was found that recent investigations necessitated so much revision that the only course to adopt was to re-write the whole of it.

As the book is designed for the use of those who have had no special training in anthropology, or who may not have had the opportunity to read widely, as well as for the use of trained observers, a brief survey concerning the present state of our knowledge on a given subject has been made in most cases. Thus, to some extent, the book is practically a text-book as well as a guide for the acquisition of precise information.

The compilers are well aware that all such efforts must be regarded as tentative, and that some students may object to a particular presentation, but such risks must be taken if anything definite is to be accomplished. Their aim has been to assist investigators by means of suggestions, but not to dictate to them. Many keen observers will doubtless proceed on the lines they consider best suited to themselves or to the local conditions; but all others will probably not go far astray if they follow the help offered to them here. It will be noticed that there is in some sections a certain amount of repetition of notes that occur in others. This has been done deliberately so as to render each section as complete as possible. The insistence on such points is probably not unnecessary.

The object of this book is to enable all those who have opportunities for research to make the most of them, and to ensure that inquiries are made with some attempt at scientific method so, as to be of use to themselves and to students at home. As far as possible theoretical matters have been avoided, as well as the wider problems of the distributions

and migrations of cultures. These are undoubtedly of great importance, but the immediate duty of an observer is to observe, and the mingling of theories with ascertained facts should be rigorously avoided. Naturally the observer should obtain all possible information concerning the known or legendary introduction of material objects or cultural traits, and such should be carefully recorded in their appropriate places. If the recorder wishes to indulge in hypotheses these should be relegated to an Appendix so that no ambiguity can arise.



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NOTES AND QUERIES

ON

ANTHROPOLOGY

PART I

PHYSICAL ANTHROPOLOGY

ANTHROPOMETRY

ANTHROPOMETRY is the term which connotes the methods employed in measuring Man. The object of Anthropometry is to learn what we may by external measurements of the structure and functions of the human body, with a view to determining how far these are dependent on inherited or racial factors and how far they vary with environment. The structure of the body and its parts is recorded by measuring certain dimensions and by noting morphological features and qualities, which do not lend themselves to exact measurement. Its functions are ascertained by recording the range and intensity of such sensations as vision and tactile sensibility as well as of motor power, strength, speed, power of endurance and so on ; while various psychological phenomena are either directly measurable by reaction-times or roughly estimated as mental characters, intense or slight, such as anger and generosity. The simpler anatomical factors can be recorded by the average observer, after a short training and a little practice, but investigation into the more complex morphological characters and into functions can only be carried out by those who have had a long and complete laboratory train-

ing. It is necessary that observations should be made on the largest possible number of persons ; in this way the range of individual variation may be estimated, any effects due to the accidental inclusion of a single unusual individual may be eliminated, and the measurements will be really representative of the population studied. When only a short time is available, it is better for the traveller to confine himself to a study of adult males, of whom, if possible, *at least* fifty should be measured in any one group. In case of doubt as to age, observations should only be made, except in the case of obvious exceptions, on those who have cut their third molars or wisdom teeth.

Observations on the structure of the body may be divided into two classes, descriptive characters, or qualities, and measurements, the latter of which should always be made in centimetres and millimetres.

DESCRIPTIVE CHARACTERS

These include the general condition of the body, the prominence of the musculature, the shape and profile of the face and nose, the form of the ears and the appearance of the lips, the amount, distribution, and character of the hair, and the colour of the hair, skin, and eyes. These characters, except those which relate to colour which must be noted separately, are far better recorded by a series of typical photographs in full face and profile, p. 376, than by any description in words. The amount of hair on the scalp, face, and body should be noted, as should any interference with the course of nature by shaving or depilation. The age at which the body hair appears might be noted in relation to the age of puberty. If possible specimen locks of hair should be procured, both from the head and from other parts of the body.

The types of hair usually distinguished are straight, wavy, curly, frizzly, and woolly. If curled or frizzled, it should be noted whether this is natural or artificial. The colour of the hair of the head should be recorded, the usual nomenclature

being black, dark brown, light brown, red (subdivided into reddish brown, red, and sandy), and fair. An intermediate half-tone should be made room for, the contents of which may be divided between the two neighbouring full tints when percentages are about to be calculated. Fair comprises flaxen and golden if the red tint is not obvious. White hair, which may be due to age, disease, or albinism is not a racial character. The shades are best noted in a good light, but not in direct sunshine. If the colour (or absence of colour) of the beard, moustache, eyebrows, eyelashes, or body hair differs widely from that on the head, its colour should also be noted. The colour and nature of the hair of infants at birth and the changes to adult condition should be carefully noted, the same applies to the colour of the eyes and skin. Where the hair colours of the population show a distinct range of variation, the usual shade should be noted. A record should also be kept of any interference with the natural colour, whether by dyeing or bleaching, p. 191.

The colour of the eye, or, more precisely, of the iris, should be noted in a good light, at a distance of one to two yards from the individual, to obtain the general effect rather than the details of any mixture. Eyes are classified into dark, neutral and light. Dark includes all browns and black, light includes pure blue, light grey, bluish grey, neutral comprises very light hazel, yellow, most shades of green, dark or brownish greys, and all uncertain colours.

When examining the eyes the direction of the opening between the slit of the palpebral fissure should be noted and any obliquity due to an elevation of the outer angles recorded, as should also any turning down of the upper eyelid at the inner angle to overhang the caruncle.

The colour of the skin should be examined in some part not habitually exposed to the air, *e.g.*, the inside of the arm, and the effects of exposure, such as freckling, should be recorded.

Skin colour is very difficult to record. The scale devised by von Luschan suffers from the high light reflection on the glass squares. Printed colour scales are useful, but they are not standardized. If any scale is used it should be definitely

stated which one is used and the date of its publication. Skin colour is probably most accurately recorded by the use of colour tops (to be obtained from Milton Bradley Co., Springfield, Mass., U.S.A.). This instrument can, however, only be used exceptionally in the field, for example, where there is a standing camp to which natives can be brought.

In certain races there are blue pigmented areas on the skin over the sacral region of new born infants, in the angular area which lies above the cleft which separates the buttocks, these should be looked for in newly born babies and the size and distribution recorded by drawings. If possible the infant should be kept under observation to see how and when these spots disappear.

Albinism is a condition of congenital absence of pigment from the hair, eyes and skin. It may be complete or partial. Albinism is best recorded by photography, the albino being photographed next to a normal member of the group. It is not a racial character, but a physiological condition.

MEASUREMENTS

Measurements of each individual should be recorded, together with any other particulars on a separate sheet, made of card or stiff paper. A specimen sheet is printed on p. 11. Many stationers will make these up into convenient blocks of fifty or a hundred sheets, similar to writing pads.

Measurements of the trunk and limbs are of importance, but these can only be satisfactorily made by those who have received special anatomical instruction.

The stature and sitting height, however, should always be taken. The subject should be measured barefoot, in the erect attitude, with the eyes directed away in a horizontal plane and the feet at an angle of 45° with one another, the heels firmly planted together. The only apparatus required is a graduated measuring rod, with a sliding bar at right angles to the rod, to which is attached a light plummet to ensure that the rod is kept in the vertical position (rods can be obtained from the Royal Anthropological Institute, price £3 3s. 0d.).

Sitting Height is the height from the buttocks to the top of the head. It is measured with the graduated rod, the subject being seated on a *flat* bench or chair. The height of the top of the head from the ground is measured as in stature and the height of the seat is subtracted from this measurement. The subject must sit upright. Some observers prefer to seat the subject astride a pole, the measurement thus obtained—the coccygeal sitting height differs slightly from the sitting height obtained by the method given above.

Measurements of the Head may be made with callipers. The callipers should be held firmly with both hands, the main axis being kept horizontal. The palms should be kept upwards so as to take the weight of the instrument, the forefingers should support the points of the callipers and be held just below them, so as to ensure the points making contact with the right place. The thumb and three fingers should grasp the instrument. If the operator has large hands he will find it possible to balance the instrument on the palms; if, however, the hinge-end tends to sink, as it may do with those who have small hands or weak wrists, this end may be supported against the breast bone at the actual moment of taking the measurement. It will be found convenient to arrange the subject so that the callipers are roughly level with the top button of the operator's waistcoat, or in hot countries the second button of the shirt. This makes it easier to hold them and so facilitates reading the instrument. In operators of medium stature this will be attained by seating the subject. Where there is a choice of instruments select one whose balance suits your hands and strength best. Adjust the screw so that the callipers work smoothly but not too freely and take great care that the slide on which the figures are written does not get bent. Mistakes are frequently made by not understanding the reading of the instrument, this therefore should be carefully studied before leaving home. If the numbers are dictated, and this is the most convenient method, do not say eighteen point three but one eight three, which should be repeated by the assistant. Measurements should always be taken in the same serial order so that it is

unnecessary to repeat what the measurement is, this repetition tends to confuse the assistant, especially when he does not understand technical terms.

Measurements should all be by *contact*, that is no pressure should be exerted, the points of the callipers just touching the skin. Many anthropologists use pressure but in this case the amount of pressure, unless checked by a gauge, which is not satisfactory in the field, varies with the individual, whereas the contact method once learned is more easily standardised.

The following include the principal head measurements which can be taken accurately and simply in the field. In taking all these measurements the head should be kept in the position described in the instructions for taking the measurement of stature, p. 4.

(1) *Maximum length (Callipers)*.—From the most prominent point in the mid-line of the forehead between the eyebrows (glabella) to the most distant point in the mid-line on the back of the head. The fixed point of the callipers is applied to the glabella, and held carefully by the fingers of the left hand, while the movable end is passed over the mid-line of the back of the head to find the maximum diameter. The pressure between the points of the callipers should in this and in all other measurements be contact, *i.e.*, touching the skin without applying pressure.

(2) *Maximum breadth*.—The maximum diameter above the level of the ears, found by placing the points of the callipers on either side of the head, the instrument being held horizontally and moving the points up and down till the maximum width is found.

The percentage ratio of breadth to length is known as the cephalic index. It is determined as follows :—

$$\frac{\text{Breadth} \times 100}{\text{Length}} = \text{Cephalic Index.}$$

It is essential that the actual length and breadth should be recorded as well as their ratio.

The term “index” as used in physical anthropology connotes a percentage ratio between two measurements. It is

the usual, but by no means the invariable practice to express the *smaller* measurement as a percentage of the greater, *i.e.*, indices are usually under 100. The most commonly used indices will be found in the following pages. In order to calculate this and other indices rapidly the simplest methods are either to use a table of indices or a slide rule.

(3) *Auricular Height (Special Instrument)*.—The plugs are inserted in the ears and the movable arm adjusted over the highest part of the head, and the height of the vertex above the plane of the ear-holes is read off on a special scale.

(4) *Minimum Frontal Diameter (Callipers)*.—The smallest horizontal diameter from the lateral surface of one temporal crest of the frontal bone to that of the other. Follow the crests along with the fingers from the external angular process until the narrowest base is found, then place the points of callipers on the crests at the place found and record the measurements.

(5) *External Orbital Breadth (Callipers)*.—The maximum diameter between the edges of the bony rims which lie on the outer side of the eyes on either side. Measured from the external bony rim of one orbit to that of the other.

(6) *Orbito-Nasal Curve (Tape)*.—Measured from the same points as (5) with the tape touching the skin over the nasal bones, care being taken to keep the tape on the horizontal plane.

(7) *Bizygomatic Breadth (Callipers)*.—The maximum diameter between corresponding points on the opposite zygomatic arches, which can be felt on the side of the face stretching forwards from the ear to the most prominent part of the cheek.

(8) *Total Facial Height (Callipers)*.—From the nasion, the bottom or deepest part of the depression between forehead and nose, *i.e.*, the most depressed part at the root of the nose, to the mid-point of the lower border of the lower jaw. This and the following measurement should only be taken when the incisor teeth are present.

(9) *Upper Facial Height (Callipers)*.—From the nasion to the alveolar point or edge of the gum between the upper central

incisor teeth. Indices can be constructed from these measurements.

$$\frac{\text{Total facial height} \times 100}{\text{Bizygomatic breadth}} = \text{Total facial index.}$$

The upper facial index may be similarly constructed.

(10) *Nasal Height (Small Callipers)*.—From the nasion to the sub-nasal point, the angle between the septum of the nose (the partition between the nostrils) and the upper lip. If the moustache is likely to interfere, care must be taken to press the point of the callipers into the angle till it rests against the skin.

(11) *Nasal Breadth (Small Callipers)*.—The greatest diameter measured *without pressure* across the wings of the nostrils. From these a nasal index is constructed :—

$$\frac{\text{Nasal breadth} \times 100}{\text{Nasal height}} = \text{Nasal Index.}$$

Callipers for taking the above measurements can be obtained from the Royal Anthropological Institute, 52, Upper Bedford Place, W.C.1. (Callipers £6 6s. 0d. ; small callipers £2 2s. 0d.)

For all these methods of measurement some elementary training is necessary. The most essential measurements are stature, head length, breadth, and auricular height,* nose height and breadth.

(All requisite anthropometric instruments and von Luschan's skin-colour table can be obtained from *P. Hermann Rickenbach u. Sohn*, Scheuchzerstrasse 71, Zurich, Switzerland. *Hawksley and Sons*, 83, Wigmore Street, London, W.1, also supply various instruments including a head-spanner for taking the height of the head, price £2 5s. 0d.)

It will be found convenient to have a control subject, say your assistant, who should be measured frequently to check any variation in technique. A further useful check is as follows. After observations have been taken on forty or fifty individuals make a table showing the number of times each

*Unfortunately this extremely important measurement is difficult to take as subjects often have great objections to the insertion of plugs in their ears.

cipher, 1, 2, 3, . . . occurs as the last digit of all the observations, irrespective of what measurements they represent. Most people have a preference for certain ciphers, *e.g.*, odds or evens, fives or noughts. Such a count will show the observer roughly the accuracy of his figures as there should be approximately the same frequency of each number.

COLLECTION AND MEASUREMENT OF SKULLS AND BONES

If specimens of this nature can be collected, they should be sent to an anatomical museum for description. If they are fragile they should be hardened either by soaking in size (conveniently made by adding one part of glue to ten parts of water) or by covering with wax. Melted candle grease is quite good if paraffin wax is not available, but the latter with a melting point of about 125° F. is best. It should not be applied too hot. Pack in crumpled newspaper if possible, under no circumstances use sawdust or sand. Care must be taken to secure loose teeth. The long bones, pelvic bones, and sacrum, are of great importance and should not be thrown away even if they are broken; provided the breaks are clean and nothing is missing they can be repaired. The wooden boxes in which petrol is packed for transport abroad make excellent cases and will conveniently hold a skeleton each. (*Cf.* Preservation of Bones, p. 386).

If specimens which may not be collected can be examined on the spot, photographs taken with as long a focus lens as possible should be made of the skull, face and profile,* and the following measurements taken:—

(1) Maximum length, taken as on the living, the observer must be specially careful to ensure that the fixed point does not move from the glabella and that the measurement is exactly in the middle line.

(2) Maximum breadth. The greatest diameter measured

*The skull should be placed in the "Frankfurt plane," that is the upper border of the external auxiliary meatus should be on the same horizontal plane as the lower margin of the orbits.

as on the living, great care being taken to keep the points of the callipers level.

(3) Basi-bregmatic height, measured from the *basion*, that is the midpoint on the anterior margin of the foramen magnum, and the bregma, the angle of the T on the top of the skull, *i.e.*, the point of junction of the coronal and sagittal sutures.

(4) Bizygomatic breadth, the greatest diameter between the zygomatic arches.

(5) Upper facial height, from the nasion, the juncture of the fronto-nasal and nasal sutures and the alveolar point the lowest point on the alveolar margin between the two upper middle incisors.

(6) Orbital height, the maximum distance between the superior and inferior margins of the orbit.

(7) Orbital breadth, the distance from the *dacryon*, the point of juncture between the frontal, maxillary, and lachrymal bones on the inner wall of the orbit, to the outer margin of the orbit, in such a way as to be at right angles with the previous measurement. It is usually well to define the orbital margin with a pencil before measuring. This and the previous measurement should be made on both orbits, or in broken crania the orbit measured should be noted.

(8) Nasal height, from the nasion to the inferior margin of the aperture.

(9) Nasal breadth. The maximum transverse diameter measured horizontally between the margins of the aperture.

(10) Minimum frontal diameter, the smallest distance between the temporal crests, as on the living.

(11) Maximum frontal diameter, the greatest horizontal diameter on the frontal bone, wherever found, except on the external angular process.

Indices should be constructed as on the living.

More detailed instructions for anthropometric measurements of all kinds and for photographic records of racial types are conveniently found in the Report of the Anthropometric Committee of the British Association for the Advancement of Science, republished separately by the Royal Anthropological Institute, 1909, price 1/- with full illustrations.

(Fuller details will be found in A. Hrdlicka, *Anthropometry*, 1920, and in R. Martin, *Lehrbuch der Anthropologie*, second edition, 1928.)* It must be remembered that taking physical measurements is a matter of difficulty and as inaccurate measurements are of no value the intending observer should qualify himself by previous instruction at an anthropological laboratory.

SPECIMEN RECORD FORM.

Serial number	Name
Age	Sex
Birthplace	
Father's ditto.....	Mother's ditto
Hair form	Hair colour.....
Eye colour	Skin colour
Stature	Sitting Height
Head length	Breadth
Auricular height	Minimum Frontal diameter..
Bizygomatic breadth	External Orbital breadth....
Total Facial height	Upper Facial height
Nasal height	Breadth
Orbito-nasal curve	
Cephalic Index	Nasal Index
Total Facial Index	Upper Facial Index
Orbito-nasal Index	
Condition and remarks.....	

ATTITUDES AND MOVEMENTS

The customary attitudes and movements of various races of men differ more widely than is generally known. Nothing is more characteristic of the temperament than the carriage and movements of the body, and they should be observed, carefully described and photographed, especially by kinematograph, wherever possible. As they usually differ between the sexes efforts should be made to observe both men and women.

Sleep.—What is the habitual posture during sleep for men,

*English translation in course of preparation.

women and children? What part of the twenty-four hours is spent in sleep? Are there fixed times for rising and retiring? How long can the people stay awake if necessary? Are lights or fires kept burning at night? What reason, if any, is given for this? (v. FIRE, p. 209).

Customary Postures.—What is the customary posture when seated at work, when resting, and for micturition, defecation, and copulation?

The motions characteristic of *Crawling*, *Running* and *Jumping*, *Dancing* (q.v.) should be described and photographed. The kinematograph should be used freely. The following points should be noted: Is the body well balanced in walking, or do the people slouch? Is the body erect and the leg straightened, or do they stand and move with the knee slightly bent? Is any gait peculiar to women? Are there any special modes of progression, e.g., on *skis* or *snow-shoes*? On *stilts*? Does the arm hang habitually with the palm of the hand to the front, rear, or side? Do they turn the toes in or out in walking, running, or riding? Is the foot firmly planted in walking, or do they walk on the heels or toes? This will in some degree depend on the manner in which they are shod. What is the average length of pace and cadence of the step in men? In women? To ascertain the average time and length of pace, measure a piece of level ground over which the people are in the habit of walking, and count their paces.

Jumping.—What is the average high jump and long jump, with and without a pole? Are running and jumping practised as sports?

Physical Powers.—What distance can a man walk in one day? What distance can he run in one day? In what time can he walk ten or twenty miles on a fairly level road or on grass? Are any special *feats of speed or endurance* recounted by the natives? How long can a man abstain from food, drink, or sleep, without inconvenience when in exercise or repose? Are *drugs* or other means employed in the belief that they conserve energy? Have they actually this effect? Do the people bear cold well, or bear exposure to direct rays of the sun? Do they expose their heads to the sun uncovered?

Trials of speed should not be confined to short races ; some non-Europeans are said to have more enduring speed than Europeans, though easily beaten by them in short bursts, and vice versa.

Pushing and Pulling, Lifting, and other forms of Effort.—In moving any heavy object, do they habitually pull or push ? Is power generally exerted from or towards the body, and what muscles do they chiefly employ ? (*Note.*—It has been found in some parts of India and elsewhere that the natives cannot use a European saw until the teeth are reversed so as to cut with a pulling motion.) How do they use an axe or an adze, a digging stick or a hoe ? How do they bore holes ? What methods are used for driving piles, raising posts or monoliths ?

How do men and woman carry weights, objects, or burdens ? What is the weight of a burden which a native will carry ? How far will he carry it in one day ? For how many days in succession without suffering thereby ? What weight (with a properly-adjusted handle) can a man raise for one foot from the ground ? For more accurate measurements, a traction-dynamometer, like that of Mathieu, should be used. The force registered should be that put forth continuously during at least two seconds. The maximum effect produced by a sudden jerk should also be noted separately.

Climbing.—Are the people good hill climbers ? Do they climb cliffs ? Do they climb trees well, and have they any particular mode of doing this ? Do they use mechanical aids in climbing ?

Swimming and Diving.—What is the common method of swimming ? Are there any games into which swimming enters ? Can the natives swim long distances ? Can they swim at great speed ? Is any board or other apparatus used, as in the surf swimming in the islands of the Pacific ? Are the natives expert divers ? For what purposes do they dive ? Do they dive weighted with a stone ? How long can they remain under water ? Is this considered a feat ? Do they dive head or feet first ? Do the tribes inland swim as well as the coast tribes ? Is swimming taught, or is it supposed to be a natural action, like walking ?

Riding.—What animals are ridden? Is riding usual or exceptional? Do women ride in the same way as men? What is the usual posture in riding? At what age is riding learnt? What distance is usually ridden in one day? For how many hours can a man keep in the saddle?

Rowing and Paddling.—Do the natives row, or paddle, or pole their boats? Is any fulcrum or rowlock provided for rowing? How do they paddle; sitting, standing, or kneeling? Describe or sketch the position of the hands and fingers on the oar or paddle. Do women paddle or row? Do people sing or shout as they row? *v.* TRANSPORT BY WATER, p. 283.

Throwing, Tossing, and Shooting.—Exact drawings are particularly valuable. Show the position of the fingers as well as that of the arm and the poise of the whole figure. Distinguish between spear-throwing and the hurling of stones or balls. Methods of holding the bow and of releasing the bowstring vary widely *v.* WEAPONS, p. 241.

Minor Actions.—Have they much power of moving the ears, scalp, or features? (*v.* GESTURE, p. 350) Have they any tricks of sleight of hand? Do they make much use of the feet in holding objects, and is the great toe in any degree opposable? Are the joints generally stiff or pliable? Describe exercises, training, and sports related to any of these activities *v.* EDUCATION, p. 89.

General Directions for Physical Tests.—It is difficult to institute comparative tests of strength for Europeans or civilized men and savages or barbarians. "Knack" and custom or constant practice have so great an influence that it is necessary to select as a test some action not habitually used by either party. The persons tested should be in the prime of life, and otherwise similarly circumstanced. In all trials of speed or endurance the temperature, the previous condition or training of individuals, and the manner in which they are shod and clothed should be recorded, as also a general description of the ground traversed. With a view to comparison, all trials should be timed, and the weights and distances carefully measured. In countries where the women do most or much of the hard labour, their strength should be

tested as well as that of the males. It appears desirable that some test of accuracy should be established. If the natives can be induced to shoot at a target, the distance of each shot from the point aimed at should be measured, added, and divided by the number of shots. The "figure of merit" obtained by this means would enable a comparison to be made with the shooting of other races, conducted under similar conditions. A target, composed of grass bands covered with paper, might be used, not less than six feet in diameter. Misses should be scored with a deviation of four feet; convenient distances are 50, 100, 150, and 200 paces of thirty inches.

Valuable data on the above points are easily obtained by recording the number of persons out of any rather large number of them (say of more than fifty) who succeeded in achieving two (or better, three) definite tests of different severity. Thus:

How many succeeded and how many failed to lift the specified weights, A, B, C, respectively.

How many succeeded and how many failed to run the specified distance D in k, l, and m seconds, *e.g.*, 60 yds. in 8, 10, and 12 seconds; or else, how many succeeded and how many failed in running the specified distances E, F, G, in n seconds?

How many dropped out and how many marched on after eating no food for r, s, t hours respectively? And so on.

The magnitude of the tasks or tests selected should be such that, roughly speaking, a quarter of the whole number of persons observed may be expected to fail in the first, one half in the second, and three-quarters in the third.



PART II

CULTURAL ANTHROPOLOGY

SOCIOLOGY

GENERAL INTRODUCTION

THE object of this book is to enable all those who have the opportunity to make the most of that opportunity, to record everything pertaining to the life and circumstances of the people whom they visit or among whom they reside, and also to ensure that such inquiries are made in the best manner so as to be of use to themselves and to students at home. As far as possible theoretical matters have been avoided, as well as the wider problems of the distributions and migrations of cultures. These are undoubtedly of great importance, but the immediate duty of an observer is to observe and record, and the mingling of theories with ascertained facts should be rigorously avoided. Naturally, the observer should obtain all possible information concerning the known or legendary introduction of material objects or cultural traits, and such should be carefully recorded in their appropriate places. If the recorder wishes to indulge in hypotheses, these should be relegated to an appendix, so that no ambiguity can arise.

There is no golden rule for starting anthropological work. Each investigator must be guided by the local conditions as well as by his own capabilities. If he aims at a thorough understanding of the life of the people it does not much matter where he begins, so long as he is able to create a sympathetic relationship. He may have an ideal scheme in his head, and this will be of help to him, but he must not force it

on his informants if all their energies are directed for the time being towards some other end. Whatever it may be, that end must be the focus of his inquiries for the time, and will inevitably lead to sound knowledge. It matters little whether this is seasonal work, or the preparation for some public or private ceremony. Should a death, birth, or marriage occur in the vicinity the investigator should get to know the family in which it has occurred and follow the procedure at first hand, supplementing the observed events by direct questioning whenever opportunity allows. Any event in the life of the individual will serve as starting place from which to study the family, while any public ceremony will serve for the investigation of the social organization of larger groups.

Creating a sympathetic atmosphere will depend entirely on the personality and capabilities of the investigator. It may be difficult to settle down immediately, and make plans and take genealogies (though the sooner this is begun the better) for this is necessary for accurate information. One people may be very secretive about such matters, while their neighbours may give all required information freely and in public. A medical man undoubtedly starts anthropological work with an advantage, and most people will find it worth while to have a good supply of quinine and a few other simple drugs to give away; sweets and tobacco are also useful. An interest in technical processes, music or art or games, is seldom regarded with suspicion, and may often prove a better beginning for sociological work than direct investigation. Anyone who is himself an expert in any of the arts or crafts will find his knowledge of advantage; the natives may be interested in his work and willing to compare notes.

There is one branch of work that should always be put off until the people are confident that the investigator's intentions are at least harmless, viz., anthropometry; physical measurements are almost invariably regarded with suspicion.

Most natives are susceptible to patriotic flattery. If the investigator says that in his home they know all about certain neighbours, but not about his informants, and that his own relations and the great ones of his country really desire to

know how they do various things and what they think, he is almost certain to get some response.

Although a large part of the instruction in this book is given in the form of questions, it is not intended that these questions should be posed directly to the natives. They are framed to draw the observer's attention to facts which he might otherwise ignore, and are founded on the practical experience of field-workers throughout the world. An attempt has been made to open all possible fields of investigation.

TREATMENT OF NATIVES

It is impossible to do more than make a few general remarks upon the treatment of natives, as there is considerable variety among different groups. Some may be naturally friendly and ready to impart information, others may be taciturn and suspicious; some may be steady, others fickle and liable to sudden changes of temperament. Whatever may be the general character of a group, there will usually be found certain individuals who vary from the average type, and these should either be sought out or avoided when making investigations. As a matter of fact it will frequently be found that in a community of natives, individuals can be picked out who in their character resemble acquaintances of the observer at home.

The essential need is that there shall be real sympathy with the people among whom the inquirer is working. Those of the lower cultures are quick to recognize whether this sympathy is real or feigned, and in the latter case it is certain that the best kind of work will never be done. If real sympathy is present, special rules will not be needed, but nevertheless one or two points may be mentioned here.

It is important that not even the slightest expression of amusement, incredulity, or dissent should ever be displayed at the description of ridiculous, impossible, or disgusting features in custom, cult or legend. Nothing is more likely to cause the informant to "shut up," as all natives are very susceptible to ridicule or suspicion. All appearance of "superiority" must be carefully avoided.

The native point of view should be recorded, and this can only be gained by sympathy. The natives should feel that you are inquiring not out of mere curiosity but because of a real desire to understand their mode of life both now and in the past, and that people at home are equally desirous to have this information. It may be advisable to tell them something about our forefathers in the stone ages, how rudely and simply they lived. The informants may be pleased to recognize the similarity, and this may spur them on to give voluntary information concerning the similarities and the differences between the two cultures.

All natives have their conventions, rules of conduct, and etiquette. These should be learnt as early as possible, for a native is just as much disgusted by the bad form or careless behaviour of others as we are, and disregard of this is certain to impede and may definitely inhibit the acquisition of information. Contact with Europeans usually materially affects the disposition of individuals, if not of the group, and allowance must be made, since many objectionable traits may be due solely to this fact. The natives themselves recognize this, and it is often possible to reprimand or snub an offensive native with the full concurrence of the unsophisticated or untainted bystanders.

The native should never be treated as a child, nor as an inferior being. He is more or less different from us, but in all real essentials he is fundamentally similar, though he is subject to an environment, stage of culture, and other conditions which mould his life and thought in a way which most Europeans have practically outgrown. The native naturally resents an attitude of condescension, but will invariably respond if treated as a gentleman by another. Your witnesses will soon come to talk to you naturally and freely, and in a short time they will be telling you of practices which have perhaps remained entirely unknown to people who have been living among them for years.

The investigator must be guided by his knowledge of the people in the matter of joking with the natives: it may be of value in establishing a feeling of friendliness, or it may prove disastrous.

Whenever visiting sacred places, or when present at a ceremonial, take the utmost care not to do anything which may offend the religious susceptibilities of the people. It is best to make clear from the outset that you wish to respect all that they hold sacred. Without permission, you should not touch, photograph or sketch anything which may possibly be sacred. It is better to be unnecessarily careful about this than to run the risk of upsetting the people by some act they regard as sacriligious. People of rude culture are so unaccustomed to any such evidence of sympathy with their ways of thinking and acting that such care on your part will go far to break down the reticence which they naturally show in speaking of their religious ideas, while it also promotes an interest and confidence in your inquiries.

When a group has become more or less christianized, it is frequently difficult to obtain precise information about former practices or beliefs. There are many reasons for this, but they can be overcome in time, or at all events partially, by careful handling. The "native teacher," who frequently comes from another place and may belong to a different race, is usually the greatest obstacle, as he is not sufficiently educated to understand what are the aims of the investigator, or to appreciate the fact that a full record of the past is the best way to emphasize the difference between the old culture and that which is being presented to them. A conscientious native who has been admitted to the secrets and mysteries of his own religion usually remains equally conscientious when converted to some form of Christianity, and therefore he may feel that he ought not to reveal that which he had promised to keep secret. There may, however, be a non-conscientious man who will reveal more or less of the past, and it may happen, when what the observer has gathered from this "bad man" is retailed to the conscientious man, that the latter will make corrections and additions, for he does not want untrue statements to be perpetuated. In such a way it may be possible to play one man against another, without incurring any ill feeling.

In some places the knowledge of simple rites, formulae, and tales is personal property or belongs to a definite family. In

such cases, it is obvious that inquiries should be made of such persons, and preferably at the very spot where the particular rite was held or to which the tale refers. Often such knowledge is known to a great many people, but owners resent the inquirer being informed by unauthorized folk.

In all cases it is advisable to learn about ceremonies, customs and legends on the actual spot with which they are concerned, as the association of ideas reacts on the memory of the narrator, and he is much more likely to give a more complete account than when speaking in a different or incongruous place. It also materially helps if objects connected with the ceremony or rite are present, even photographs or drawings are of considerable assistance. Not only the place but the time must be considered. There are times and seasons when it is difficult to obtain information, at others it comes almost spontaneously. It is not always possible to await the exact season when a ceremony or rite is or was performed, or when certain games are played, or when certain tales or myths are narrated. In order to get some of these a mental atmosphere must be created, or the occasion seized when the signs seem propitious.

In approaching timid or shy natives with a view to establishing friendly relationship and confidence, it is very useful to seek out one who has been wounded and to render "first aid" to him. Other natives will be curious to see what is being done and will gradually gather round, and when they recognize that the visitor is doing something to help them, they are liable to become reassured and friendly. A surgical bandage and disinfectant may frequently be the means of establishing friendship.

Never, unless absolutely necessary, make an ostentatious display of weapons. If arms are carried for defence, keep them concealed as far as possible.

When trying to photograph shy natives, it is well to conceal the fact that the real lens is pointing at them. A dummy lens fixed at the side of the camera and pointed away at right angles to the natives, will make them think that they are safe, the real lens being concealed by the hand until the last moment.

One difficult topic may be briefly considered here. It is hoped that this book will be largely used by *missionaries*, and it may seem to some of them impossible to adopt the attitude recommended above. In such matters each man must follow the path which seems to him right, but it may be pointed out that to the missionary a full knowledge of native modes of thought and action is of the greatest practical importance, and further, that such full knowledge will lead to the discovery that, behind customs which may be repugnant in many ways, there is much that is good and worthy of encouragement in the religion of those they call heathen. One who is capable of sympathy with native modes of thought, and can show it in his inquiries, will find himself in a far stronger position to deal with the practical problems which come to him as a missionary than one whose only idea is that of indiscriminate destruction. It is a fact that a man who is good and conscientious will always remain so whatever his religion, and it is a great advantage to gain the ear of those who have a pious reverence for their own religion and its practices. A missionary who studies the native religion sympathetically will not only discover the real nature of those he wishes to improve, he will not only reach the hearts of the best members of the community, but he will also find himself in a position to effect far more vital and fundamental reforms in the lives of the people than is possible to the unsympathetic man, who will spend his life in the mere cultivation of the surface. To one who has not this sympathy at the outset all that can be recommended is impartial inquiry. With increasing knowledge the sympathy will come.

METHOD

GENERAL PRINCIPLES

In turning to the general consideration of method, it will be well to lay down first some general principles founded on the nature of the modes of thought of those races with whose investigation this book is especially concerned.

Concrete Instances.—One such principle is founded on the fact that the language and correspondingly the thought of people of the lower culture are highly developed so far as the concrete is concerned, while in abstract matters the terminology may be scanty. This does not imply an absence of abstract thinking, but such thought is extremely difficult to interpret and record. The rule which follows is that the abstract should always be approached through the concrete; full advantage should be taken of the mastery of the concrete possessed by the savage to find one's way to the more abstract side of his thought and institutions. The use of sticks and stones to represent persons will enable the informant to visualize the position and movements of people when giving sociological or ritual information, and this method can be used with advantage in collecting certain kinds of linguistic information.

Differences of Mental Grouping.—A second principle follows from the fact that in the lower culture things are classified in a way very different from that to which we are accustomed; in other words, the savage arranges his universe in categories different from those of ourselves. In no subject is this more strikingly illustrated than in the matter of kinship. It is not an exaggeration to say that no savage people exists having in its language words which can be regarded as the exact equivalents of our words, father, mother, brother, and sister, and reciprocally we have no words in our language which convey in any but the most imperfect measure the ideas which his words connote to the savage. This characteristic, which is obvious in such a matter as kinship, runs, though less conspicuously, through the whole of the departments of sociology and religion, and is probably largely present even in the more material departments of the science.

European Questions and Native Answers.—Two rules follow: one that native terms must be used wherever there is the slightest chance of a difference of category; the other that the greatest caution must be used in obtaining information by means of direct questions, since it is probable that such questions will inevitably suggest some civilized category.

Differences of category probably explain a not infrequent feature of anthropological work which is very puzzling. It often happens that you ask for information in a way which seems to you to be perfectly simple and straightforward, and your informant may be quite unable to respond, and yet later, sometimes within half an hour, he will give what you want incidentally, perhaps in the course of a tale or other narrative. Probably the formal question, framed on some category of European thought, put the matter in an unaccustomed light. In order to grasp its meaning it would have been necessary for your informant to see the matter in a light different from that natural to the people, but when telling the tale the facts are in their natural setting and rise to consciousness spontaneously.

Leading Questions.—This is merely one of the difficulties which arise in connection with the ordinary question-and-answer method of obtaining information. The danger of leading questions is obvious, and it is a good rule never to ask a question which is capable of being answered by a simple "yes" or "no," but always to frame the question so that positive information has to be conveyed in the answer. The rule cannot be followed absolutely, and may be neglected with a witness whose trustworthiness has been thoroughly tested, but it is a safe rule to follow whenever possible in all but the simplest and most unequivocal matters. Negative questions should always be avoided, for such questions are answered all over the world in exactly the opposite way to that customary among ourselves: *e.g.*, the question, "Do you never dance in daytime?" should be framed, "Do you ever dance in daytime?" Whenever possible, it is best to ask for positive statements and descriptions, only using questions in order to direct attention to special features which require elucidation or fuller treatment.

Voluntary Information.—Above all, never neglect a statement volunteered by a witness independently. This is so important that it is worth dwelling on at some length. The importance and evidential value of volunteered information is so great that it is a good rule to follow up at once a statement volunteered in the course of an inquiry; to leave the

main path of the inquiry and follow this side track. If the volunteered statement is obscure or even quite unintelligible, so much the better; it may and probably does mean that you have been put on a track which will lead to something absolutely new and unsuspected, while your main path was probably leading to some goal already more or less understood and foreseen. The importance of this rule can hardly be overestimated, though it is often difficult and perplexing to follow, and may lead to long delays in working out a subject completely. To many it may be repugnant; the person with an "orderly mind," who believes in probing one subject to the bottom before turning elsewhere, and cannot suffer an interruption in his train of thought, will miss much. He will probably complain bitterly of the difficulty of keeping the people to the point, not recognizing that the native also has a point, probably of far more interest than his own. Further, such information is of very great value as evidence, for it is certain to follow the native categories of thought.

Rules and Rarities.—There is one tendency of the human mind which must always be remembered in anthropological inquiry, *viz.*, the tendency to think of the exceptional when asked to speak about a procedure or institution. It is far more easy to think of things that are only done occasionally than of things we do so constantly that they have become automatic and pass without attention, and yet it is obvious that it is the latter which are the more fundamental and important. The effect of this tendency is probably far greater in a less civilized race. It is surprising how an intelligent native will give a description of some mode of his life and leave out entirely those features which seem to the anthropologist to be the most important, and from his point of view undoubtedly are so.

Recording the Absence of Customs.—In studying any area the neighbouring cultures should be taken into consideration, and the absence as well as the presence of customs should be recorded. A categorical denial as to the existence of a custom should not be credited except when obtained from a reliable member of the group which is being investigated. The

apparent absence of any object or custom does not necessarily imply that it does not occur. It is essential that a record should be made of everything the first time that it is seen, as experience has shown that no other opportunity may occur.

Corroboration.—The above matters have been dealt with first because they are perhaps special to anthropological inquiry, and are not at once apparent. Other more obvious rules may now be dealt with. Always obtain corroboration of your evidence from different witnesses. This corroboration may be of two kinds, direct and indirect. By direct corroboration is meant that two or more independent witnesses should be asked to give an account of the same matter. If the accounts agree exactly, and collusion can be excluded, the facts can be accepted, but far more usually there will be discrepancies; one witness will include facts omitted by the other, and will omit others which he gives; or there may be actual disagreement. The investigation of such disagreements when they occur is one of the most fruitful sources of knowledge; their explanation may throw valuable light on native modes of thought, or the disagreement may be found to be the result of local differences which may be of the greatest interest. Further, where such disagreement is not so explained, it may help greatly in the estimation of the trustworthiness of different witnesses, a subject to be more fully dealt with later. Sometimes the method of direct corroboration may be inapplicable; a certain rite, or the knowledge of some institution or even a folk-tale may be the exclusive property of one man, or it may be that only one person may be found who will consent to talk about a given matter. In such a case all that can be done is to record the fact that the information comes from a single witness, so that all may know the value of the evidence.

Indirect Corroboration is still more important. By this is meant that when one subject is being investigated, something may turn up, quite unexpectedly and unsought, which exactly corroborates a statement obtained or an observation made on a different occasion, perhaps from a different witness. Thus, when working at the technique of fishing, a fact illustrat-

ing marriage may be given, which corroborates or even amplifies or explains information obtained when marriage was the direct subject of inquiry; or the formula recited during a magical rite may contain a sentence which corroborates information previously obtained about the ancient mode of descent of the people. If, as often happens, and will probably happen always if you go on long enough, the facts thus accidentally discovered are in agreement with other facts obtained in some quite different connection, both hereby acquire a degree of certainty which is lacking in information obtained in answer to direct questions.

Interdependent Evidence.—The immense value of this indirect corroboration leads to the formulation of another rule. If you wish to obtain complete knowledge of any one department of anthropology, you must cover the whole field of the science. Nothing is more futile than for an investigator to limit his study to the sociology, the religion, or the technology of a people. It is hopeless to attempt to obtain a complete account of the religion of a people without studying at the same time the mode of life, sociology, the language, and the technology. Among ourselves these departments are to a large extent separate and capable of independent investigation, but the lower you go in the scale of culture, the more are they found to be interdependent and inseparable. Further the man of rude culture shares with the civilized a trait of great importance in this connection. Everyone who has ever been examined at school or college knows that the most unfair kind of question is one which requires a complete enumeration of any objects or conditions. Examples with which one is really quite familiar fail to occur to the mind unless the subject has been definitely crammed beforehand. It is not therefore surprising that an inquiry devoted to discovering all the conditions under which a given event occurs, or other similar enumeration, should present difficulties to the savage. If you start on the investigation of a special topic, and probe to the bottom, it is probably not an exaggeration to say that in anthropological work you may expect to get about one-third of what there is to be obtained by covering

the whole field. Thus when dealing with the duties and privileges of kin, direct inquiry will obtain a certain amount of information, but duties connected with fishing, hunting, childbirth, and other pursuits or occasions will not be remembered, or only cursorily mentioned; and a full account will only be obtained when those subjects are being dealt with and are prominent in the minds of the witnesses.

GENERAL ACCOUNT OF METHOD

Nothing is easier than to do anthropological work of a certain sort, but to get to the bottom of native customs and modes of thought, and to record the results of inquiry in such a manner that they carry conviction, is work which can only be carried out properly by careful attention to method.

Language.—One great difficulty of the work with which this book is particularly concerned, is that the inquirer and his witnesses speak different languages. This difficulty at once divides anthropological work into two classes: one in which the inquirer has learnt the language of the people with whom he is working; the other in which reliance is placed on the services of interpreters. It is not necessary to insist on the immense natural superiority of the first class of work, and yet in actual experience this natural superiority has not shown itself, because it has not been accompanied by attention to method. It must be recognized that given the use of method, work in the field of great value can be done with the aid of interpreters, but those who have the advantage of living among savage or barbarous races can do work of greater value if they will combine a full knowledge of the language with attention to method. It cannot be too strongly urged on those who live and work among peoples of low culture that their first duty is to acquire as completely as possible that knowledge of the language of the people without which not only any scientific work they do, but any other business they may have with the people, must lose much of its value. In the following pages attention will first be given to general questions of method common to both the above classes, and later some attempt

will be made to deal with special points which arise in the case of those who have to rely on the aid of interpreters. When possible it is preferable to use a common language such as jargon English or a jargon native language, rather than to rely on a native interpreter, unless he is an exceptionally good one. It is necessary that all native words for which no accurate English equivalent can be found should be freely used. Colloquial phrases and those which illustrate the native turn of thought should be used whenever they are employed by the informant.

Note-taking.—One need for anthropological as for any other kind of scientific work is so pre-eminently important that it must be stated before any other. It is the necessary foundation of all trustworthy work, and is so obvious that it would seem unnecessary to state it if it were not for the fact that there is probably nothing so frequently neglected by those whose opportunities for work are greatest. This is the need for immediate and full note-taking. It may be possible to write down from memory vague and general accounts of customs, ceremonies, or institutions, but that exact and full knowledge which is essential to the anthropologist of to-day is only possible to one who records fully and immediately* the information given to him by those with whom he is working. The value of note-taking is so generally acknowledged in science that it may seem superfluous to go into the matter at greater length, but it may be pointed out that it is necessary not only to record the actual information received, but also as far as possible the setting in which it was obtained, and especially the names of the informants. It is surprising to find how conditions so important, and at the time so familiar, that they might be expected to be permanently imprinted on the mind, will be found to have been forgotten, or to have faded, if they have not been recorded. When first recording a

*In the case of some peoples this word requires some modification. Among most of the races of the world which interest the anthropologist, there is no difficulty whatever in noting down what you are told immediately, but among the higher races such immediate note-taking may be impossible, at any rate until after long acquaintance, and in such cases all that can be done is to write down the information *as soon as possible*.

native word or name invariably print it in block capital letters.

Pictorial Notes.—Further, the written notes should be accompanied by all such records as can in any way promote their exactness and clearness. The place of photography hardly needs mention, but the value of sketches to bring out the essential features of a scene or structure, and to elucidate the details of a photograph, may be especially mentioned. Plans and maps should be made whenever possible, and plans and detailed drawings of buildings or other structures should be accompanied by a record of their dimensions. People of low culture are often admirable draughtsmen, and every opportunity should be taken to make them draw, to illustrate objects of all kinds. It may be possible thus to obtain, from old men, drawings or models of objects, such as shrines or masks, which have wholly disappeared, and it may even be possible to obtain in this way representations of mythical beings, and incidents of ceremonies.

SOME SPECIAL HINTS ON METHOD

In addition to the general features of method discussed above there are certain more special methods and points of detail which may be considered. Nearly all of these fall under the first rule stated, that the abstract should be approached through the concrete. In studying social organization do not begin by asking about any general laws, but obtain the names of villages and parts of villages; make a plan of some locality, find out the names of the inhabitants of the different parts, and work out their pedigrees in the way described on p. 47. Inquire into the different social status of the different inhabitants, and thus get to know all the concrete facts about some section of the community as fully as they are known to the natives themselves. Make a plan of the tribal territory, giving the boundaries of tribal subdivisions or local clans, the situation of villages, the disposition of gardens, pasture, or hunting grounds, etc., in relation to settlements. Visit the houses or other buildings; make plans

of them and record their dimensions. Record all that is to be seen, and then find out all that is to be learnt about what you have seen. Differences in the structure, size, etc., of the houses may be symptomatic of distinctions in class, rank, wealth, and so on. Objects hanging up inside the house may lead to the discovery of religious or magical rites and beliefs, as well as illustrate the economic life of the people. Study the dress, ornaments, and marks of the people in the same way, and attend particularly to simple girdles or armlets, etc., of grass or leaves, which will probably have some magical or religious significance. These material and concrete points afford a first rapid and approximate approach which will tide over the initial difficulty of establishing contact with the natives.

On the technological side take every opportunity of seeing a thing made. Record the process fully, and obtain examples at different stages of manufacture. In every case obtain fully the names of everything you see, and of its every part. One who has obtained the name used for every part of a house and studies the meaning of these names will have progressed very far towards understanding the general ideas underlying its structure, and probably also its history; and so with other technical processes. Often objects which seem to us to differ little have nevertheless different names, while others which seem to us of a wholly different nature are grouped together under the same term; it is from information such as this that we must hope to obtain a full comprehension of those principles of primitive classification of which at present we know so little.

In studying religious or magical ceremonies, see whatever you can and record as fully as possible what is seen; then after the ceremony, go through the whole minutely. You will find that there is much that you have failed to see while the ceremony was in progress; and then, if possible, see the ceremony again. If it is probable that you will only have one opportunity of witnessing the ceremony, it is of the utmost importance to obtain an account of it beforehand so as to know the features of most importance.

Obtain fully in the vernacular all formulas uttered during the ceremonial, and learn not only the meaning of the individual words, but also the general sense of the whole, which may often be far from obvious from the constituent words. It will often be found that a formula or the verse of a song cannot be translated, since they may belong to an obsolete or foreign language. Nevertheless what the informant believes to be the sense should be recorded. The importance of obtaining the exact formulas is a point of the utmost importance which must never be neglected, for it is only from these, as a rule, that there is any hope of obtaining a trustworthy clue to the explanation of the rites, while they often preserve evidence of the origin and history of the whole cult to which they belong.

Take advantage of any events of social importance which happen during your stay. A thorough study of a concrete case in which social regulations have been broken may give more insight into the moral ideas of the people than a month of questioning about what they think right or wrong. Again, nothing is more useful in acquiring a knowledge of the real working of the social regulations than the records of cases which are brought before the native tribunals. Accounts should be obtained with the fullest detail, and the whole history of such cases gone into as completely as possible.

It need hardly be said that all this would be impossible without full and immediate note-taking. Such concrete information as this must be written down at once, and on the spot. Delay would only lead to a confusion and blurring of details.

Private Information.—At an early stage of the inquiry, it will probably be found that there are many matters about which the people will talk readily and freely, not only when alone with you, but also when others are present, while there are other matters about which at first they will not talk at all, and certainly not in the presence of others. It will probably become convenient to have two classes of work with the people: one, at times when you are open to all comers and can do any measuring or testing if these operations form

part of your work, and can talk about any matters which are known to all, and are not regarded as secret; the other at times when you only see by appointment those with whom you are inquiring into more intimate matters, or from whom you are seeking to obtain information which is the exclusive property of only a few, or even of a single person. You may find it a good plan, among a people where the forbidden topics are especially numerous, to have a native always at hand during the public sitting who can at once give you a sign when a subject is approached which should better be reserved for a more private occasion. Even without such a guide, the demeanour of your witness, after you have had a little practice, will at once reveal that you are dealing with a secret topic, but it is just as well to be able to postpone the matter before this stage has been reached. It is well to make a note of anyone, whether in your own district or another, who is reported to have any special information, so that direct inquiries can be made when an opportunity offers. A similar note should be made of any locality from which special information can be obtained.

An example of method will illustrate some of the foregoing rules. Suppose that you see a man with a piece of creeper round his waist with leaves suspended from it. You ask what it is for, and you are told that it means nothing or has been put on for play, but the demeanour of your informant, his obvious uneasiness and general manner, tell you that there is more than this. It will be well to drop the subject, if others are present, or content yourself with the inquiry for the name of the girdle, which will be put down merely to your linguistic curiosity. Later, at a private sitting, you ask an informant to tell you all about the object you have seen, mentioning its name. Perhaps he will at once give you a full account of its function, and of the ritual of which it forms a part, opening up, it may be, a quite new field of inquiry. If it is a medico-magical rite which is concerned he will perhaps only be able to give you the ritual connected with the girdle from the point of view of the patient. In this case he will probably not be able to say what was done with the creeper and leaves before

they were put on, nor will he be able to give you the formula which was uttered at the time, because it has been said in so inaudible a voice that the individual words could not be heard. Having thus obtained all that is to be learnt from the point of view of the patient, you take the earliest opportunity of an interview with the man who has performed the rite. He will soon find that you already know a great deal, and will probably want to know who has told you. You will tell him that you have been told something by a man who evidently knew little about it, and that you have come to him because you have been given to understand that he, your present informant, was the only person who understood the matter properly. He will thus perhaps be induced to give you the whole business from beginning to end with the full formulas. The account you have already obtained from the other participant in the rite will act as a most valuable check, and a careful collation of the two accounts may convince you that you have obtained a trustworthy record, though it is impossible to be certain that some features may not have been omitted, perhaps a clause of the formula or some part of the ritual regarded as especially sacred. If you have found that the rite is known to others, you will then approach another man in the same way, and obtain a second and quite independent account, which should put the whole matter on a satisfactory basis. Perhaps the second man will tell you what the other has omitted, or something he may say will put you on the scent of facts still hidden, and thus lead to the revelation of the full ritual.

Journal Method.—The field-worker should from the very first day of his contact with the people keep a diary of daily events, however trivial they may appear, which come under his observation. This is of special importance, as ceremonies, feasts, large gatherings, big hunting or fishing expeditions, etc., may take place during his early days among the people, and the careful record of what has been seen, even if the nature and purpose of the event cannot be immediately ascertained, will prove a valuable guide to research and inquiry later on when the observer has established intimate contact with the

people. There is always the possibility, moreover, that the opportunity of witnessing such events may not recur. The early impressions of native daily life, and the behaviour and reactions of the natives, should be noted down in this way while they still have the freshness of novelty; further acquaintance with the people and increased familiarity with their mode of life will often cause the normal events of the day to appear a simple matter of routine and hence liable to be overlooked when it comes to working up the results. Certain peculiarities can only be perceived with a better knowledge of the local conditions. It is not sufficient merely to record those occurrences and details which are prescribed by tradition and custom to be the essential course of any ceremony, but the observer should note the attitude of the performers and spectators towards it, whether they behave seriously or jocularly, with earnest concentration or bored frivolity, whether they are in their normal everyday mood or are worked up to a high pitch of excitement. By continually recording such observations a mass of information will accumulate concerning the psychology and behaviour of the natives which later on will prove invaluable.

In working with half-civilized people who use writing, it has often been found profitable to engage a man to keep a journal of local events.* Unusual information has sometimes been obtained in this way on calendar customs, public and family ceremonies, the agricultural routine, and the native view of political and personal affairs—with this advantage, that the topics have been chosen as interesting by the native informant himself. At the end of a period the writer of the journal and the investigator go over the record together; a literal translation is made, or, if the journal has been written in English or in jargon, as many native words as possible are obtained and added. Comments, additions and explanations, which naturally arise out of this discussion, are recorded separately as notes, so as not to spoil the psychological interest of the writer's original choice and treatment of topics.

**Journal Method*, E. C. Parsons. "A Pueblo Indian Journal, 1920-21." In *Memoirs of the American Anthropological Association*, 1925.

ADOPTED ELEMENTS IN CULTURE

Importation, Imitation, Teaching.

Probably no ethnic groups are so entirely isolated as to have adopted nothing even in recent times from their neighbours. Manufactured objects and natural products, especially such as are small, valuable, and rare, pass from tribe to tribe, often over great distances, by way of gift, plunder, or trade. Iron, salt, narcotics sometimes make regular trade-routes or lead to migrations. Native travellers bring stories, songs, religious rites. Foreigners are brought into the tribe by marriage, war, slavery, and adoption. Two migrating peoples may settle in the same district, and tribes may be conquered and their lands occupied by other tribes. In all these cases the native customs, language, and ways of thought are modified in various degrees. Material objects, food and narcotics, ornaments, diseases, stories, songs and dances, even religious cults, and a number of words connected with them, may pass from one people to another, with very little admixture of peoples or of the fundamental elements of their culture. But a much longer and more thorough process of intercourse and blending is needed to change the structure of the language, or to modify the social structure—the native organization of kinship, clanship, marriage, inheritance, land-tenure.

To study these *adopted elements in culture* is both important and difficult. Suppose that the observer sees in one island, A, a basket exactly like one that he has seen in another island, B; he may find by inquiry that the basket was actually *imported* from B, lately, or long ago; or, this specimen was made in A, but in *imitation* of baskets imported from B; or, the art of making it was *taught* by visitors from B to A, or by natives of A who have visited B and returned. Or possibly A is the original home of the art, and the baskets seen in B were *imports*, or *imitations*, or the result of *teaching*.

A dance and the apparatus for it may have been *imitated* from the performances of other tribes, or *taught* by visitors or returned travellers. It may be of native invention but *suggested* by the sight of foreigners and their behaviour. The

right to perform the dance and the necessary ornaments may have been bought, given, acquired by marriage, captured in war. A religious cult may have been introduced in any one of these ways, or there may have been a proselytizing mission. Foreign words may come by neighbourhood, intermarriage, trade, war, or other means.

By inquiring exactly into these matters, the observer is sure to open up good lines of investigation into the native way of living, social structure, religious and artistic history. But it is easy to leap to false conclusions. If a peculiar custom of inheritance is found in two tribes, it is not enough to guess that one has adopted it from the other. To change part of the social organization is not so simple as to buy a basket or a song; other changes would take place along with it, or in consequence, and these must be investigated as evidence for the change. Nor do people adopt new customs unless something already existing in their own culture makes the innovation easy and congenial, or some change of circumstances makes the change of custom necessary. If they adopt a new food, perhaps there was a decided want of that element in their food-supply, perhaps their old food-supply has been suddenly cut off; if they alter their customs of marriage, it may be that the proportion of men to women has been lately altered. The conditions of intercourse, past and present, between the two peoples must be studied. Similarity of particular customs may come from similarity of conditions, and not necessarily by adoption or imitation.

Almost all peoples have now been modified to some extent by *European Influence*, either directly, by the coming of settlers, traders, missionaries, soldiers, administrators, or at second-hand through neighbouring peoples; even the inquirer's own stay in the country is enough to modify native thought to a certain extent. The same questions arise as with regard to non-European intercourse, but the contrasts are sharper in the former and the evidence sometimes easier to find. Some importations—iron, tools, matches, for instance—make their way at once, with little effect on social structure; others, such as bedsteads, clothing, money, involve

social changes. Some innovations are resisted, others welcomed; past or present conditions may account for the difference. The people's resources may be increased by new foodstuffs and conveniences, or actually impoverished by the change from a rich natural supply to a limited artificial supply.

The observer will note the effect of new conditions on the people's *health* and *fertility*; food, dress, housing, employment of native labour, new diseases and treatments, restrictions on native customs, social relation and sentiments between natives and foreigners, feelings of security or discouragement, all affect it. The old people can describe diseases known before foreigners came; epidemics are generally well remembered. Whatever they can remember of the first coming of foreigners, and what people said of them, is worth recording. It is important, but difficult, to find out whether the *population* has increased or decreased; one can ask for old house-sites, ask who lived there, whether they died or moved away, and compare them with the present inhabited sites; more or less land may be cultivated now than formerly; clans or religious societies may be known to have died out. But for all those there are possible causes other than loss of population. *Genealogies*, p. 44, and *statistics* of marriages, births, and deaths are better evidence (*v. DEMOGRAPHY*, p. 62). The common observation of white neighbours that "the natives are dying out" should not be simply accepted but should be investigated. It may be an excuse for failing to take any measures to prevent the decrease of population; sometimes it refers to a high death-rate, which, however, may always have been present in conjunction with a high birth-rate. Nor are the natives' own estimates often trustworthy.

Two errors occur very commonly in the record of *European influence on native thought*. First, it is true that religious ideas which involve no social change, but are merely additions to speculation or mythology, spread very easily. Sometimes they are incorporated with the native stock of ideas so as to be almost indistinguishable from it; sometimes they are deliberately accepted as new but equivalent versions; sometimes

they are recognized, but kept apart in a special category, as belonging to the new order. All these possibilities must be kept in mind. But not every story of a Messiah, or a flood, or a journey to the sky or the country of the dead, is necessarily adopted from Europeans at all, and the origin of any feature of this kind should be verified with particular care.

There is a second kind of error quite as common and harder to detect. Some observers are only interested in such customs and ideas as seem to them "purely native." When they find anything suggestive of European influence, they reject it as unimportant and do not record it; just as they clear the imported furniture out of native houses before photographing them. Innocent and almost unconscious as this process seems, it is a serious falsification of the evidence. For the picture of native life which they reconstruct by leaving out the foreign elements is artificial, and quite useless for psychological and sociological study. Indians and Africans of to-day are not the Indians and Africans of the past with certain foreign additions which can be stripped off, so as to exhibit them as they used to be; their experience has become a part of them, and their outlook even on "purely native" subjects can never be the same as before. Even the partial use of a European language modifies their logic and reacts on their own language. Naturally, the observer must record all that survives of the old native life; *but he must show it in its modern setting, and with all its European trappings.*

It is always worth while to inquire how far the native account of their own history in legend and myth testifies to the influence of strangers.

TREATMENT OF WITNESSES

Choice of Informants.—A few points remain to be considered. Special attention should be devoted to ascertaining the character of those from whom your information is derived. People of rude culture differ among themselves as greatly as do the civilized in such qualities as accuracy, conscientiousness, and

that clearness of thought which is so essential in a witness. Great economy will result from the wise choice of those from whom information is sought. At the same time, it is a great mistake to rely altogether on one or two witnesses. Local differences will thus escape observation, and there is the danger that such witnesses will come to regard themselves as indispensable, and in order to maintain their position may perhaps describe departments of knowledge with which they are not conversant. In nothing is the genealogical method more useful than in the detection of a careless, inaccurate, or unscrupulous witness. As a rule, such witnesses should be at once discarded, but sometimes a dilemma arises which may render resource to them inevitable. It often happens among a reticent people that only one or two persons can be found who will open their mouths on certain aspects of native custom, and it may be that these less reticent persons have already been found to be unscrupulous witnesses, who will not hesitate to call on the imagination when exact knowledge fails. In such a case you have to choose whether you will go without any information at all, or will obtain it from one you know to be unsatisfactory. Luckily there is one human characteristic which makes it right to choose the second course. A man who will tell you nothing spontaneously often cannot refrain from correcting false information. If an account obtained from an unsatisfactory witness is retailed to one who will not otherwise speak, he may, and often will, relent. At bottom he is proud of his native institutions, and cannot bear that a garbled version of them shall go to the world, and, seeing that much is known, he will often thaw and reveal more, if not all. If this manoeuvre does not succeed, all that can be done is to record the evidence of the witness you suspect to be unsatisfactory, but with such an account of the conditions under which it was obtained that all who read can form an estimate of its value.

Remuneration.—A practical question of much importance must be considered here. A man who comes to you day after day to give information will need some recompense, and at the same time it is dangerous to pay for information directly.

The best plan is to ascertain the amount which a man normally earns in following his usual occupation—or if he has no occupation, the amount which he would regard as a fair payment for a day's service—and make this the basis of the recompense. If a man is hired by the day or half day, he comes to look on the occupation as daily work for which he is paid as for any other kind of labour, and any idea of direct payment for information is avoided. Sometimes, when every other means fail, and absolutely as a last resort, money may be offered for certain information, but this should not be done till the end of the work, when it can have no effect in keeping back other information in the hope of similar payment. Luckily, when any such payment is necessary, it is usually for information given without the knowledge of the general body of the people, and the whole transaction can be kept secret.

Interpreters.—There remain to be considered the special difficulties which arise in work without knowledge of the language of the people who are the subject of inquiry. In the first place, it may be stated that it is far better to work with an interpreter than to attempt an independent inquiry with an inadequate knowledge of the language. The danger of serious error is probably far greater in the one case than the other. To anyone who has only a limited time available for work, it is probably more economical to work throughout with an interpreter than to attempt to acquire a colloquial mastery of the native language. Unless the inquirer has exceptional linguistic ability, it is improbable that he will in such a time as six months acquire sufficient mastery of the language to enable him to use it as his instrument of intercourse. Even a small knowledge of the language is, however, useful, and the amount of time devoted to the colloquial use of the language must depend on the nature of individual cases.

When an interpreter is engaged, it is essential to test his accuracy in every possible way, and to train him to understand your exact methods. In the case of an interpreter who is himself one of the people under investigation, the danger is that he will give his own knowledge instead of that of the person you are interrogating, and the mere fact that he knows

English will often mean that his knowledge is not that of an expert. If, on the other hand, he belongs to some other race, the danger is that he will interpret the statements made to him in the light of his own culture rather than convey them with literal accuracy.

In testing and training an interpreter, the genealogical and other concrete methods are of the greatest service. The genealogical method gives no scope for anything but straightforward transmission, and by its use the interpreter gains the habit of accuracy if he does not already possess it. He learns that what you want is not an interesting and plausible story, but the exact truth. It is surprising what a revolution can be effected in the value of an interpreter by even a few days use of the genealogical method. Further, the knowledge which results may interest him greatly, and one who was at first only an interpreter may become a most valuable fellow-investigator.

Use of Native Terms.—Whenever work is done with an interpreter, or directly by means of a common language, it will soon be found impossible to keep wholly to the use of your own language. It will become clear that there are many native terms which have no English equivalent, and it will be found essential to use the native words. As the work progresses, this use of native terms will probably become more and more necessary, and it often comes about that the language of communication between the observer and the interpreter has become a strange jargon, probably almost unintelligible to a bystander, in which nearly every noun is native, in a general setting of English. There is no more potent source of misunderstanding than the failure to appreciate the difference of meaning between some native term and the English word which has been taken to be its equivalent. This happens especially when some jargon such as "pidgin English" forms the means of communication. An apparently hopeless misunderstanding may at once disappear with the substitution of perhaps two or three native terms for their one equivalent in the jargon.

N.B.—Before attempting to describe the social life of any

people, it is important to be familiar with the terminology of social organization. Definitions suggested for the principal social terms in common use will be found in the section on Terminology, p. 54.

THE GENEALOGICAL METHOD

Of the various methods of collecting concrete facts which have been mentioned, there is one of so much importance as to need special description. It is a very general practice among people of rude culture to preserve pedigrees, often so extensive that a man is able to give in genealogical form all the descendants of his great-grandfather, or of some still more remote ancestor. Such pedigrees should be collected, and if the community with which you are working is not very large, an attempt should be made to record the pedigree of every one of its members. The social division or divisions to which each member of the pedigree belongs should be recorded, and also his social status, and a collection of material of this kind will furnish a mass of concrete data which can then be used to work out in detail the nature of the social organization, the method of counting relationship, the regulation of marriage, the mode of descent, inheritance and succession, and many other subjects. The great value of this procedure is that you are yourself using the very instrument which the people themselves use in dealing with their social problems. It is quite certain that people would not preserve in their memories these extensive pedigrees unless they were of practical importance, and there is no doubt that where the pedigrees exist they are continually in use when the people are dealing with situations which arise in connection with marriage, inheritance of property, succession to chieftainship, and other social conditions. In acquiring a knowledge of the pedigrees, the inquirer learns to use the concrete method of dealing with social matters which is used by the natives themselves, and is able to study the formation and nature of their social classification, and can entirely exclude the influence of civilized categories.

The first principle of collection is to use as few terms denoting relationship as possible. Although nearly all people of low culture apply the term "father" to a large number of persons, they understand perfectly well that among these there is one who occupies a special position whom they distinguish as that of the true or real father. The first point to be impressed on the informants is that it is this man whose name is wanted when you ask for the father of a person, and a similar precaution must be taken with other terms used. It will be found practicable to collect the most extensive pedigrees, using only five terms of relationship, *father*, *mother*, *child*, *husband*, and *wife*; in the case of a child, distinguishing between *male* and *female*. Terms such as brother and sister, and still more cousin, uncle, or aunt, must be altogether avoided. You may begin by asking either the name of the father or the mother. If the former, ask: "What is the name of your father? What is the name of his wife from whose womb you were born?" Having discovered their names next ask, "Had so and so, and so and so, any more children beside yourself?" It may even then be necessary to ask whether they were all from the same womb. If you are not sure of the words "mother" and "father" in the language, and do not want to trust to your interpreter, you can say, "What is the name of the woman who gave birth to you? What is the name of her husband?" Then ask, "Did so and so have any children beside yourself? What are their names? Are they all from the womb of so and so, and children of so and so?" Having obtained the names and sex of the children, you should inquire whether any of them have married and had children, and if this is followed up, there will thus be obtained a small pedigree consisting of the descendants of the father and mother of your informant, p. 49.

If the father had had more than one wife, there should then be obtained the names of the other wife or wives, and of their offspring; and the marriages of these should be followed up, just as has already been done with the children of the informant's own mother. Having thus obtained a full

account of the descendants of your informant's father, you can ask next for the father and mother of this man, *viz.*, your informant's paternal grandfather and grandmother, and obtain a full list of their children, and repeat the whole procedure, beginning one generation farther back. Continue in this way till you have obtained a complete account of the genealogical tree of your informant's father as far back as his memory extends. You can then turn to the pedigree of his mother, and follow that out to the utmost, and so on till the genealogical knowledge of your informant is exhausted.

In most places, it will be found that there are certain members of the community especially learned in genealogical lore, and it is always best to use these as far as possible. The evidence of young men in genealogical matters must be accepted very cautiously, except for their own generation, for knowledge of this kind is only acquired slowly, in most cases through the teaching of the older members of the community. While you are collecting the pedigrees, there will, of course, be much overlapping; a family belonging to the ancestry of one man's father will appear again in that of the mother of another, and of the wife of a third, and thus is provided ample means of corroboration and of ascertaining the trustworthiness of different witnesses.

Precautions.—Although the existence of extensive pedigrees is almost universal among people of rude culture, it is not always easy to obtain them. One great difficulty is the existence of *taboos on names*, especially on those of the dead and of certain relatives, but with patience this can always be overcome, though it may be necessary to collect each pedigree from persons who do not themselves appear in it. Other sources, not so much of difficulty in obtaining the pedigrees, as of confusion when they are obtained, are the practices of *adoption* and of *exchanging names*, while the paucity or plurality of *personal names* which is found among some peoples may also be a source of confusion. When, however, such sources of difficulty are once recognized, they become merely new instruments for understanding the social conditions of the people; thus, when it is found that adoption exists, inquiry

should be made in every case whether a child is the real or adopted offspring of the parents to whom it has been assigned, and in the latter case, the names of both real and adopted parents should be obtained. Thus is gathered a stock of concrete information which will enable a complete study to be made of the very practice which caused the difficulty.

Practical Hints on the method of recording the pedigrees may be of service. It is a convenient practice to write the names of males in capital letters, and those of females in ordinary writing. The names of the social divisions, villages, etc., may be written in red ink, to be replaced by italics in printing. In recording a marriage, the name of the husband may be put to the left of that of the wife, and in cases of polygyny and polyandry, the names of the associated spouses may be enclosed in square brackets if they are contemporary. Words in round brackets may be used to indicate foreign localities in cases of marriage outside the community. Whenever a large mass of genealogical material has been collected, it is most convenient to write on one sheet descendants in one line only, and to give cross-references to descendants in the other line, quoting the pedigrees in which they are to be found. The line chosen will depend on whether the people have patrilineal or matrilineal descent. Thus, in the case of patrilineal descent and a family of sons and daughters, the children of the sons will be given on one sheet while the children of the daughters will appear in the pedigrees of their husbands. When a person has died without having married, it may be well to indicate whether death has taken place in infancy or adult life by the abbreviations *d.y.* and *d.unm.* The names of the living should be underlined or distinguished in some other way to enable a genealogical census of the population to be taken. The signs ♂ for "male" and ♀ for "female" should be employed when the names of the individuals cannot be given.

The advantages of the genealogical method are very great. By means of it the inquirer will often have acquired knowledge about individuals before he has met them, and these people will be flattered when he shows in conversation that he already

knows something about them personally. Further, it is a subject on which most people are ready to talk ; and they will often volunteer interesting information concerning the people mentioned in the pedigrees that would never be discovered by questioning, and might easily escape direct observation. If the pedigrees are made complete for any relatively small community, such as the village, the census thus available may be used in connection with all types of sociological inquiry, whether in determining social groups, in general questions of population and migrations, or in precise investigation of the nature and working of the relationship system and the social groupings more or less dependent upon it. The merits of the method are obvious for the recording of complicated ceremonies and the investigation of the intricate questions of property and inheritance.

Application of the Method to the Relationship System. When a number of pedigrees has been recorded, the terms of relationship should be obtained by asking the informant what he calls the various other members of his pedigree. If you are working with a man (whom we will call X), ask what he calls his father, mother, brothers, and sisters, the brothers and sisters of his father and mother, and other more distant members of his pedigree ; care being taken to speak of these persons by their personal names, not by the names of their relationship to him. In every case, after asking what X calls A or B, ask what A or B calls X, thus obtaining the terms in reciprocal pairs. The list of terms which follows gives the relationships of most importance arranged on the basis of these reciprocal terms. If, for instance, you ask a man what he calls a woman who is shown by the pedigree to be the wife of his mother's brother, the term which he gives in reply will be entered opposite this relationship, and then the term applied by this woman to the man will be entered in the corresponding line of the second column, giving the equivalent of the husband's sister's son, and so on, till examples of all the relationships in the list have been sought out in the pedigrees. When the lists of relationship terms have been ascertained it is helpful to make another list, putting the native terms first in one

column and then giving the English equivalents ; by this means one can see at a glance which relatives are classed together under the same terms.

The advantage of this method is that you are asking for concrete facts which are perfectly familiar to your informant. He is simply giving you names which he is in the habit of using for the people concerned. The method is merely a special case of the general rule of inquiring into the abstract by means of the concrete.

Father	.....	Son.
		Daughter.
Mother	.....	Son.
		Daughter.
*Sister (m.s.)	.....	Brother (w.s.).
Brother (child of own father and another mother).		
Brother (child of own mother and another father).		
Sister (child of own father and another mother).		
Sister (child of own mother and another father).		
Elder brother (m.s.)	.....	Younger brother (m.s.).
Elder brother (w.s.)	.....	Younger sister (m.s.).
Elder sister (m.s.)	.....	Younger brother (w.s.).
Elder sister (w.s.)	.....	Younger sister (w.s.).
Father's brother	.....	Brother's child (m.s.).
Father's elder brother	.....	Younger brother's child (m.s.).
Father's younger brother	..	Elder brother's child (m.s.).
Father's brother's wife	....	Husband's brother's child.
Father's brother's child.		
Father's elder brother's child		Father's younger brother's child.
Father's younger brother's child.		Father's elder brother's child.

*It is unlikely that all these terms for the brother sister relationship will be found in one system. In many systems there is a reciprocal term for the brother sister relationship, and another that is used between sisters and between brothers. In some systems difference of seniority between brothers and sisters is very important, while in others a sharp distinction is drawn between brothers and sisters as to whether they are the children of the mother or of the father. In such systems the father's brother's children are usually classed with father's children, and the mother's sister's children with the mother's children.

Father's sister	Brother's child (w.s.).
Father's sister's husband	Wife's brother's child.
Father's sister's child	Mother's brother's child.
Mother's brother	Sister's child (m.s.).
Mother's brother's wife	Husband's sister's child.
Mother's brother's child	Father's sister's child.
Mother's elder sister	Younger sister's child (w.s.).
Mother's younger sister	Elder sister's child (w.s.).
Mother's sister	Sister's child (w.s.).
Mother's sister's husband	Wife's sister's child.
Mother's sister's child.	
Mother's elder sister's child ..	Mother's younger sister's child.
Mother's younger sister's child	Mother's elder sister's child.
†Father's father	Son's son (m.s.).
	Son's daughter (m.s.).
Father's mother	Son's son (w.s.).
	Son's daughter (w.s.).
Mother's father	Daughter's son (m.s.).
	Daughter's daughter (m.s.).
Mother's mother	Daughter's son (w.s.).
	Daughter's daughter (w.s.).
Husband	Wife.
Wife's father	Daughter's husband (m.s.).
Wife's mother	Daughter's husband (w.s.).
Husband's father	Son's wife (m.s.).
Husband's mother	Son's wife (w.s.).
Wife's brother	Sister's husband (m.s.).
Wife's sister	Sister's husband (w.s.).
Wife's brother's wife	Husband's sister's husband.
Husband's brother	Brother's wife (m.s.).
Husband's sister	Brother's wife (w.s.).
Wife's sister's husband.	
Husband's brother's wife.	
Son's wife's parents.	

m.s.—*man speaking* ;

w.s.—*woman speaking*.

†In some systems it is important to find out the terms for the spouses of all the grandchildren, and, conversely, for the grandparents of the husband and wife—this is especially important where there is an alternation of generation, so that the father's father is classed with the brother, and the son's son's wife with the wife.

The above list includes comparatively near relatives only. In order to find how far the classificatory principle extends, the names for more distant relatives must also be obtained; thus, you should obtain the terms for the brothers and sisters of the grandparents on both sides, for their wives and children and for the latter's children again, and the terms given to the more distant relatives of the wife must be obtained in the same way. Among these distant relationships some of which are of special interest are those for the wife and children of the sister's son, and for the husband and children of the sister's daughter. The whole list of terms should be obtained as they are used by both men and women. You should not only go through the pedigrees to find out what a *man* calls the various relatives, but the process must be carried out with equal completeness taking a *woman* as your starting-point. In some cases, the distinction between the terms used by men and women has been included in the list (*m.s.*, man speaking; *w.s.*, woman speaking); but it must be sought throughout. Whenever the term "child" occurs in the list, it is necessary to ascertain in the same way whether "son" and "daughter" are called by different names. It should be borne in mind that among primitive peoples, relationship terms, unlike our own which depend only on the sex of the person spoken to, are usually equally dependent on the sex of the speaker.

Similarly, in some relationships the list includes a distinction between elder and younger. This occurs most frequently in the case of brothers and sisters, but it should be inquired into with other relatives, especially in the case of the brothers and sisters of the father and mother, and the husbands and wives of the sisters and brothers. Special terms may also occur for members of a family according to their order of birth.

Sometimes, again, there are certain terms for brothers and sisters with the same father and mother, and other terms when they have only the same father and not the same mother and *vice versa*. These distinctions which occur especially where polygyny is frequent may affect a large number of terms, such as those for the brothers of the parents. In all cases inquire

what means there are of distinguishing near relatives, the actual parents, brothers and sisters, from those to whom the same terms are applied by the classificatory principle.

The terms should be obtained from at least three different pedigrees. Owing to special forms of marriage or other causes, it may happen that two persons are related to one another in more than one way, and it is necessary to multiply observations to avoid this source of error.

Several terms may be used for the same relative. Thus, often one term is used when addressing a relative, and another term when speaking of this relative to another. Sometimes the former is merely the vocative form of the latter, but often it may have quite a different form. The use of different terms of this kind is especially frequent in the case of the father and mother, but should be inquired into throughout. Sometimes two different sets of terms may thus be obtained of which one may be much simpler than the other, and a wholly false idea would be given if one set only had been obtained. The use of two terms for one relationship may have other explanations: *i.e.*, it may be that one is a generic, the other a specific term; it may be that one term is recent, perhaps borrowed, while the other is the old and correct use; or it may be that one term applies properly to an office connected with a relationship; thus, in Torres Straits the wife's brother is *imi*, but when acting at a funeral he is called *mariget*, and the latter term might easily be taken to be the term for this relative, though properly it is only a term for this relative when carrying out certain functions.

Very often, indeed usually, terms denoting relationship are given with the possessive, "my father," or "his mother," and it may be that the word is never actually used without such a possessive. For this reason it is often convenient to give the terms in the possessive form, and in such a case the possessive used should be noted. The full list of possessives should be obtained, and will sometimes be found to differ from those used for other purposes.

Notice, in this connection, whether any linguistic differences are made in the form of the term, according as the relative

referred to is that of the informant ("my father," etc.), that of the person spoken to ("your father," etc.), or that of the person spoken of ("his father," etc.). Differences in person are generally indicated by differences in the possessive pronoun, but entirely new words may be used instead.

Important as the actual terms of relationship are, it is perhaps even more important to study carefully *the way in which they are used*. It may be found, for example, that in ordinary daily life personal names are used rather than relationship terms, but that in certain circumstances a person must be addressed not by his name, but by the appropriate term of relationship. The investigation of these circumstances will throw valuable light upon the part played by kinship in regulating the life of the people. There may be occasions, *e.g.*, when the use of a relationship term in preference to a personal name is deliberately designed to remind the person spoken to of the relationship in which he stands to the speaker, others induce him to, say, grant a favour or fulfil an obligation. The terms of relationship are not merely terms of address; they very often express *actual social relationships*, *i.e.*, there are certain mutual obligations, privileges, rights, etc., which regulate the conduct towards one another of a man and anybody to whom he applies a term of relationship. It is as a key to the study of these social relationships that the real value of the Genealogical Method makes itself felt (*v. Life History of the Individual and The Relationship System*, pp. 84, 66). Again, it is quite common for children to call their relatives by the relationship term, while they themselves are always addressed by name. Notice how far the use of relationship terms as terms of address is customary, permitted but not enjoined, or made compulsory, and always record the context in which such terms are used. Where terms such as "father," "mother," etc., are applied not only to one's own parents, but also, *e.g.*, to the father's brothers, mother's sisters, etc., notice whether any modifying words such as "own" are found, *i.e.*, notice if the native can distinguish in terminology between his immediate family circle and more remote relatives, by the use of either qualifying adjectives, or by differences in

intonation, and so on. It must be emphasized that the terms of kinship do not imply that the native's attitude of mind and his social relation to all the people designated by the same term is exactly identical. Both in the ideas and feelings of the people, and in their customary regulations, the "own" brothers or parents may occupy quite a different position from the cousins or uncles, although the former may generally be designated by the same words as the latter. It is of the utmost importance therefore to ascertain carefully how the native distinguishes in speech and behaviour between his immediate family circle and the more remote relatives to whom he may apply the same general terms of relationship. Notice also whether only such people as a man is actually able to place in his pedigree are designated by kinship terms, or whether in addressing each other the natives use the terms of kinship within a much wider range, comprising not only the clan but the whole community. The term "father," *e.g.*, is often applied to any man older than the speaker, even if the two are not genealogically related; "brother" to any male person of the same generation, and so on. This may be tested firstly by direct observation of the way in which relationship terms are used in daily life as actual terms of address, and secondly by taking the village community, or the clan, or other social group, and asking your informant to classify those men and women according to their relationship to him. Probably he will pick out a certain number of persons and designate them by appropriate kinship terms; while the rest, he will say, are no relations of his. How does he normally address the latter?

TERMINOLOGY OF SOCIAL ORGANIZATION

It will help to make descriptions of social groups and their functions intelligible if the commoner terms for different kinds of groupings are used in accordance with the definitions and explanations which are given below.

Family.—This term should be limited to the group consisting

of a man, his wife (or wives) and their dependent children, own and adopted.

Kindred.—This term should be limited to a group of persons who acknowledge their descent, genealogically or by adoption, from one family, whether through their fathers or their mothers. The kindred, though it is not always recognized as a group, yet influences the social organization. It is among some peoples a recognized unit, indicated by a special term, *e.g.*, the *taviti* of Eddystone Island.

Kin and Kinship.—Should refer to relationship, real or by adoption, which can be demonstrated genealogically by descent.

Affines and Affinity.—Should refer to relationship by marriage.

The Extended (or Joint) Family.—A group of families related genealogically (or by adoption) and living together as a well-defined unit. A patrilocal extended family is one in which the father, his sons, sons' sons, together with their wives and dependent children, live together, the daughters marrying into another locality and becoming members of the extended family there; a matrilocal extended family is one in which a woman, her daughters, daughters' daughters, and their husbands and dependent children live together in one household group, the sons at marriage going to live with their wives and becoming members of their family groups.

The Clan.—An exogamous, unilateral group of persons all the members of which (*clansmen*) are held to be related to one another and bound together by a common tie of *clanship*. This tie may be a belief in common descent from some ancestor, real or mythical, it may be the common possession of a *totems*, p. 76, or the common habitation of a village or district.

Sib, sept, gens, and *totem-kin* have been used synonymously with *clan*. Some American authors use *gens* only where there is patrilineal descent, p. 57, *clan* where there is matrilineal, but this should be avoided. In some cases clans are grouped into *phratries*.

Phratry.—An exogamous division of a tribe which is subdivided into *clans*. Occasionally a phratry may have only one clan. When the tribe is divided into only two phratries these are termed *moieties*.

The Tribe.—The largest body of people speaking what they themselves regard as one language and having a common name for themselves, as well as a sense of solidarity which expresses itself in regarding other people as strangers.

Age-Grade.—Where the community is divided into groups of progressive seniority and promotion, having certain definite duties and privileges, such groups should be designated *Age-Grades*, e.g., the boy, warrior, and elder grades of the Masai. Those Age-Fellows who have been initiated together may be looked upon as an *Age-Set* or *Age-Class*.

Caste.—This term should be limited to the institution whereby society is divided into endogamous groups, which are usually occupational, as found in India.

Marriage.—Is a socially recognized, more or less permanent, union between individual men and women.

Monogamy.—Is the marriage of one man with one woman.

Polygamy.—Is a generic term including *polygyny* and *polyandry*.

Polygyny.—Is the marriage union of one man with two or more women. Where the wives are sisters the term *adelphic* is used. If one of the wives has a position superior to that of the other the polygyny is *disparate*.

Polyandry.—Is the marriage union of one woman with two or more men. Where the husbands are brothers, the term *adelphic* is used. If one of the husbands has a superior position to the others the polyandry is *disparate*.

Cross-Cousins.—Cousins of which the mother of one is sister to the father of the other are called *cross-cousins*. Therefore every person has two types of cross-cousin. (1) The children of his mother's brother, (2) the children of his father's sister.

Parallel-Cousins.—The children of two brothers or two sisters irrespective of the rules of descent are *parallel-cousins*.

Ortho-cousins.—The children of two brothers when descent is patrilineal, of two sisters when it is matrilineal (*v. below*). Thus, where the clan system is found ortho-cousins belong to the same clan.

Matrilocal, Patrilocal.—Marriage is *matrilocal* when the husband lives with the group of his wife; *patrilocal* if the wife lives with the husband's group. In patrilocal marriages matrilocal residence is frequently observed for some period of married life, and conversely.

Descent, Inheritance, Succession.—It should be noted that these do not necessarily follow the same rules among any given people.

Descent.—The rules of descent are those which regulate the birthright membership of a clan or other unilateral social group.

Inheritance.—The rules of inheritance are those which regulate the transmission of property from a dead person to the heirs.

Succession.—The rules of succession are those which regulate the transmission of office.

Descent is *patrilineal* when a man belongs to his father's social group, *matrilineal* when he belongs to his mother's; but a society which has matrilineal descent groups may also attach importance to kinship through males, and inversely. Some people have no descent groups (Andamans, Eskimo), some have patrilineal descent groups, some have matrilineal descent groups, and others have two sets of descent groups, one patrilineal, and the other matrilineal (Ovaherero, Ashanti, Ambrym). Where descent is patrilineal a man's heir is his son. Where inheritance is matrilineal a man's normal heir is his sister's son. This is also true of matrilineal succession.—With both matrilineal and patrilineal inheritance and succession the brothers are frequently the first heirs or successors, though after their death the property or office reverts to the children in the direct line.

Patripotestal, Matripotestal.—Authority in the family or joint family should be described as *patripotestal* or *matripotestal*. In the former case it should be noted whether the

authority is in the hands of the father, the head of the joint family, or of a family council. In the latter case it should be noted whether the authority is in the hands of the actual mother, of the maternal uncles, or of the mother's relatives in general.

The terms *Father-right*, *Mother-right*, *Patriarchal*, *Matriarchal*, are best avoided. Descent, Inheritance, Succession, Authority, and Matrilocal or Patrilocal marriage should be considered separately.

SOCIAL GROUPS AND GROUPINGS

SOCIAL GROUPINGS

In contradistinction to local groups where there is usually some discontinuity which allows us to speak of definite groups without specifying the relation to some person or place, the social groups are relative and depend upon a relation to some person. It is convenient in these cases to speak of social groupings, rather than of social groups. All relationship groupings belong to the latter class, of which the best example is the family.

LOCAL GROUPS

In studying any community it will be found convenient to begin with the local group, starting with the smallest, the house or homestead, and going on to the largest territorial groups. Though the information may be classed under local and social groups, if the genealogical method is used the data gathered which centres round the local group will also deal with the social groupings. Thus in inquiring about the homestead we shall gain information concerning the type of family, p. 63. Further, the type of *domicile*, temporary shelter, tent, single hut, or homestead, will be clearly correlated with the economic life of the people. Therefore full details of the domicile and its occupants are valuable, and the daily

and family life, p. 64, may well be described as these centre round it.

Houses may be grouped together to form *hamlets*. It should be ascertained whether the occupants of a hamlet are related by blood or other ties. *Villages* may be stockaded, or be large settlements stretching out the length of the cultivation. It should be discovered how far, if at all, the village forms a self-conscious local group. Is there a village headman? *v. CHIEFTAINSHIP AND KINGSHIP*, p. 143. Is there co-ordination within the village for work, feasting, or hunting, or defensive action? (*v. WARFARE*, p. 162). Is grazing or cultivated land, or are hunting or fishing rights, held in common by occupants of a village or members of a local group *v. ECONOMIC LIFE*, p. 124. Is there a club-house or guest-house, or dancing ground, within the local group? Is marriage between members of a local group permitted?

In some parts of the world there are *long-houses*, and a large number of families live each within its own partition in each house; these houses may form both local and social groups. Genealogical records of the occupants of such houses would give valuable information.

There may be *seasonal migrations*; it should be ascertained whether these are determined by condition of pasturage, etc.

Local groups may be based on *occupation*, *e.g.*, blacksmiths may live in a group apart from the rest of the community, or towns may be divided into occupational areas *v. ECONOMIC LIFE*, p. 124.

A plan of the local group will add greatly to the value of the study, especially if it is made to correspond with the pedigrees *v. GENEALOGICAL METHOD*, p. 44, so that the habitation of each individual can be located.

Ascertain how far, and on what occasions, the members of any community normally act as a unit because they belong to a single local group.

DEMOGRAPHY

Intensive and Extensive Surveys of Population.

The enumeration and statistical survey of populations of particular areas, if undertaken with method, accuracy and some knowledge of the purpose for which such data may be required, form the material on which workers in many branches of anthropology, sociology, economics, and biology may have to rely in attempting the solution of special problems.

Ethnographers and others attempting a demographic survey among primitive peoples will often have to rely for obtaining statistics of population on their own unaided efforts confined to a relatively small and selected area. An extensive survey of a whole country, district or tribe is often impossible. In any case an intensive and exhaustive statistical record of even the smallest selected area or of a single village is usually of far greater value than a wide and extensive enumeration of the population of a whole country undertaken with less accuracy, method, and detail, and omitting much of the information which may afterwards be required.

Each contributor should provide a map of the area reported on, showing tribal boundaries and adjacent areas, location of settlements, and communication routes (paths, roads, etc.). Sketch plans of villages should show distribution of houses, the different types of houses, their uses, wells and water supply, and how allocated to families, and to different classes or sections of the population. Such plans may usefully be made to relate to genealogical records of families, which may help to record the extent and nature of migratory movements, of inbreeding and outbreeding.

Evidences of Change in Constitution, Growth and Decline of Population.—The object of all methodical investigations is to discover both what is happening, and why it is happening. Much of the value of demographic surveys therefore lies in comparing an analysis of the existing population with the population of previous years or previous generations, and with records of the same population that may be undertaken in the future, so that an estimate may be formed of the nature of the

changes that have taken place and are likely to take place in the future. All reliable evidence of changes in the constitution of the population under their respective headings should be recorded.

Distinction and Identification of Ethnic and other changes within a Population.—Population and race, though commonly and constantly confused and continuously interacting, must be methodologically distinguished.

In a mixed population it is often exceedingly difficult to identify ethnic distinctions and crosses. Distinctions recognized by natives and based on their history, supplemented by all recognizable ethnological discriminations, should condition all records of population changes, of expansion and decline. This is of course more easily undertaken where the differences between races in contact are greatest, as between Europeans and Melanesians, or Chinese and Polynesians in the Pacific. By distinguishing race from population we may sometimes be able to record the phenomenon of a declining race within (and incorporated by) an increasing population, or vice-versa. Where possible evidence should be collected that can indicate any differential survival of ethnic, economic, social, or occupational groups comprised in a population itself either stationary or fluctuating.

Where in any population there is mixing between groups coming from different caste, or segregated occupational strata, or ethnic origins with a differential survival rate between them, the constitution of the population necessarily undergoes a process of qualitative change, or a gradual substitution of dominant for disappearing types. In order to demonstrate accurately the operation and extent of population substitution and its relation to the problem of the increase or decline of races, we must have adequate vital statistics to give us accurately such facts as the rate, extent and progress of miscegenation, and in categories in which the smallest admixture of blood is discriminated.

The Study of Over-Density and Depopulation.

The problem of over-population being complementary to the problem of depopulation, the same laws and processes of

change bring about both phenomena, even within the same population group, as when the substitution of intra-group population elements takes place.

Since the elucidation of correlations constitutes one of the most profitable methods of diagnostic investigation, any disturbances or fluctuations in the size, fertility and survival rate of population which can be found to be correlated with other ratios of change within those groups may have significance. Rates of miscegenation and variations in the sex ratios may show correlation with, or inverse correlation with, the rates of growth of population.

*Headings under which Vital Statistics are collected or required.*¹

- (i) Census of population—by sexes.
- (ii) Annual rate of increase or decrease of population.
- (iii) Age distribution of population.
Percentages at pre-puberal and post-puberal ages.
Percentage under 20 years ; 20-25 years ; over 50 years.
- (iv) Miscegenation rates in mixed population.
Percentages of full bloods and mixed bloods.
Rates of increase of mixed bloods and full bloods.
- (v) Sex ratios.
Masculinity of population (use either males per 100 females, or excess of males over females per 100, both sexes combined).
Masculinity at different age categories.
- (vi) Masculinity of mixed bloods and full bloods.
Masculinity of full tribals and inter-tribals.

¹ This seriatim list of headings is given provisionally pending the formulation of authoritative national and international questionnaires agreed upon as most suitable for synchronizing demographic data for issue to ethnographers and demographers working among primitive and non-European races.

In 1928 the International Union for the Scientific Investigation of Population Problems appointed a Commission on the vital statistics of primitive races, among whose tasks is that of securing international collaboration in the collection of vital statistics among primitive races and the issue of questionnaires.

- (vii) Proportion of polygynous males to monogynous males.
Proportion of polyandrous females to monandrous females.
- (viii) Marital indices.
Percentages of endogamic and exogamic marriages.
Nuptial ages : male and female (the ratio of number of males to females at the respective average nuptial ages has been termed the effective mating sex ratio).
Marriage rates ; divorce rates.
- (ix) Birth rates (in age and sex groups).
Death rates : maternal mortality rates ; infant mortality rates.
- (x) Morbidity rates (prevalence of disease), and factors of elimination.
- (xi) Fertility rates.
Sterility rates.
Per married woman 15-44 years of age married one year or more ; among full bloods ; among mixed bloods ; in polygynous marriages.
- (xii) Migration.
Numbers immigrating and emigrating by age and sex.
(State purpose, *i.e.*, for marriage, occupation, etc.)

THE FAMILY

The Family is the most important relationship grouping, and is determined by direct descent. Direct descent is that relation between persons which results from natural motherhood and the institution of marriage. A person is related by direct descent to his natural mother and her husband (and jointly husbands).

The matrilineal family, which is frequently found among agricultural peoples, presents problems that are not found among the simple patrilineal family, notably that the father is not the authoritative head of the household. All points that occur in daily life, p. 84, which depend on this fact should be observed. We might expect the simple patrilineal family to resemble our own, but this is not necessarily so, the ties to relatives outside the immediate family group

(v. THE RELATIONSHIP SYSTEM, p. 66) may obtrude into family life.

Family Life.—The natural as well as the ceremonial behaviour of all members of the family towards each other should be observed, both as between parents and children, and among children of one family themselves, especially with regard to habits concerning food and sleep, work and play, etc. No details of family life are too trivial to record. Such observations should be made in the same way in the polygynous and the polyandrous family, and the extended or joint-family.

Status of Members of the Family.—Full recognition of the status of each member of the family can only be gained when social, economic, and religious factors are considered. The duties and privileges of each member of the family should be noted throughout the life history (v. LIFE HISTORY OF THE INDIVIDUAL). It should be ascertained in which member of the family authority is vested, and to what extent authority can be used. Has a man right of life and death over any member of his family, or can he sell or pawn any member of his family into slavery? Does authority wax or wane in old age? The position of husband and wife respectively in household management should be ascertained, and the relation of each to the totemic or ancestor cult of the other. The economic relationship of husband and wife should be inquired into: are either specially responsible for the maintenance of the other or of the whole family? Can each member of the family hold property separately, or do they hold it in common? Can a woman hold all forms of property? Can she make use of it independently of her husband or family, or merely hold it in trust for her children?

Status of Children.—Is there any age at which children (m. and f.) become independent of their parents or guardians? Can children own property to dispose of at their own free will?

The treatment and status of orphans and posthumous children should be ascertained.

Adoption may be (1) sporadic, or (2) so customary as to be part of the social organization of a people.

(1) The motives for sporadic adoption will not be hard to

find ; by this means a home will be found for an orphan, or a child for a childless couple. The need for the latter may be intensified by the beliefs in an after-life, when a descendant is required to carry on the family cult, or where there is property to be inherited.

(2) Among a prolific people who do not practise infanticide such motives would be insufficient in themselves to give rise to a general custom of adoption.

Whenever a case of adoption is discovered full inquiries should be made, and where it is customary a number of concrete cases should be examined. Often there is so much secrecy in connection with the practice that this is impossible. A full account should be obtained of the whole procedure of adoption from the time it is first proposed to the time when the tie between a child and its real parents is broken, and replaced by a fictitious tie between it and the adopted parent. Special points to be attended to are the motives for adoption ; the relationship of real and adopting parents ; whether the real parents are willing to give up their child, or compelled by custom to do so ; the amount and nature of any payment ; the degree of secrecy and the methods of enforcing it. May a married couple adopt any child, or must the child belong to the same social group as one or other of the adopting parents ? If the latter, does the child change its group by adoption, and what attitude is inculcated towards its old group with regard to : (a) relationship and marriage regulations, (b) cults and ceremonies, (c) hostility and blood-revenge ?

Can an adopted child inherit from and succeed to his adopted parents ? Would a true son always take precedence of an adopted son ? The ceremonial of adoption should be recorded ; this is sometimes symbolized by a dramatization of rebirth, or of suckling, or blood may be sucked from the adopting father.

Adoption of Adults.—What are the motives for this ? Are strangers or captives adopted ? If so, is the ceremonial the same as for the adoption of infants ?

Fostering.—If a mother should die or be unable to suckle her child what steps are taken to preserve its life ? Is an attempt made to rear it on artificial foods, or is it given to a foster-

mother? Are there any conditions, social or occupational, under which a woman is not permitted to suckle her young? In pre-Christian Iceland it was the custom for a land-owner to give his children to a married couple of inferior rank who would rear them with their own children. Where fostering, either sporadic or customary, takes place the following inquiries should be made: Is the status of the foster-parents equal to or inferior to that of the real parents? Are the foster-parents connected by ties of kin, clan, or common membership of any other social group, with the real parents? At what age does a child leave its foster-parents, and when it does so is it still bound to them or their children by any social ties, *e.g.*, the duty of blood-revenge, or artificial kinship? What payment, if any, is made to the foster-parents?

Where fostering is customary the following should also be inquired into: Are the children of all classes of society given to foster-parents, or of one class only? Are all the children of one family sent to the same foster-parents, or are they scattered? At what age does a child usually leave its real parents, and when, if ever, does it return to them? Can children inherit from or succeed to their foster-parents? How far are the foster-parents responsible socially and economically for the child? What reasons are given for the custom of fostering?

THE RELATIONSHIP SYSTEM

Kinship Grouping (the Relationship System).—Nothing gives more insight into the intimate nature of social organization than the mode of naming relatives, and yet no subject is more often entirely omitted or very incompletely treated by field-workers. This is due to certain difficulties which can be completely overcome if methods be employed suited to the special needs of the case (*v. Application of Genealogical Method to Relationship System*, p. 48).

Our own family system and the relationship system associated with it are rarely found amongst primitive peoples. The peculiarity of our system is the use of relationship terms for

close relatives only. Our relationship system has been called by Morgan, the *Descriptive System*, p. 70. This name is misleading, because our terms are *not* descriptive, and as will be seen later a certain type of classificatory systems characteristically uses terms which are actually descriptive of the relationships of the persons so called. In our system, as in the classificatory system, terms are used for whole classes of people, *i.e.* the persons whom we call "uncle," "aunt," and "cousin," fall into more widely distributed groups than are found in classificatory systems. These persons, however, can always trace genealogical descent, except occasionally by a well recognized social convention which could never be recognized legally—but "mother" and "father" are used respectively for one individual only, and socially and legally these are true parents. Our system is thus associated with physiological parenthood and monogamous marriage, and is best called the *Family System*. Wherever this system, or a similar system, is found among primitive peoples the terms of relationship should be obtained, and a study of the mutual behaviour of persons using the terms made. It should not be assumed, in those cases where this is found, that because the terms are similar to our own, therefore family reactions, duties, responsibility, privileges and mutual bonds, necessarily follow a familiar pattern.

The systems more usually associated with primitive peoples may be termed classificatory. The distinctive feature of, *Classificatory Systems* is that each relationship term is applied not to an individual, but to a whole group of persons. To whom in some cases, genealogical relationship cannot be traced, *e.g.*, where the clan-organization prevails, the mother and that group of women whom she calls "sister" may all be classed together under one relationship term. Further, this relationship of sister or brother tends to hold between all members of the clan who do not regard themselves as being in some other specific relationship. In spite of the use of certain terms within the clan, it frequently happens that these same terms may be extended to persons outside the clan. For instance, in one common type of classificatory system the

mother's sister's children, as well as the father's brother's children, are all classed as "brother" and "sister"; where there is a dual organization a person's "brothers" and "sisters" will all be in his own moiety, but where there is no such grouping into moieties they may belong to any clan.

In some communities (as in Australia) kinship terms of this sort go beyond actual social relations, hence even distant strangers, never met or seen, are regarded as potentially belonging to one group of kindred or another. Nor is this usage a mere rule of politeness: the "classificatory" terms are applied according to strict rules to a number of people whose relationship is traceable by pedigree or by membership in a clan or group. Behind the linguistic usage there is always a set of mutual obligations between an individual and all those whom he calls "father," "mother," "brother," etc. The "fathers" or "brothers" act as a group on certain occasions, and they are therefore a well-defined social group, and not merely a name.

Owing to the wide use of terms under the classificatory system everybody may be found to be related in some way to everyone else; in addition, owing to habitual forms of marriage and other social forces, persons may be classed together who stand in separate genealogical relationships, *e.g.*, among some people certain cross-cousins fall into the parent-child relationships.

Most societies have definite arrangements for the remarriage of widows; it is sometimes found that the terms of relationship are affected by these habitual secondary marriages.

A less common variety of classificatory system is that in which persons fall into definite relationship classes which regulate marriage; membership of these classes may depend on indirect descent (*i.e.*, where a man belongs to the class of his paternal grandfather but not to that of his mother or father, as is found in Australia). This may conveniently be called a *Class System*.

A division of Society into two exogamous halves or moieties is found in some parts of the world, notably in Melanesia and Australia, and is usually known as the *Dual Organization*. It

may be associated with a class system, but this is not necessary. The essential feature of the system is that *everyone* is involved in it. If a man of moiety A marries a woman of moiety B, their children will either belong to moiety A or moiety B and will necessarily have relations in both groups. The system is frequently associated with enjoined marriages with some definite relative—frequently, though by no means necessarily, the cross-cousin. A number of exogamous clans may be linked together by marriage ties, but this does not imply the existence of a Dual Organization unless these clans are forbidden to marry into any other except the associated clans. It may frequently be found that one large clan has subdivisions which do not intermarry because of their recognized mutual relationship, and therefore they marry into several other smaller clans. Such a condition may give the appearance of a Dual Organization, but if the smaller clans may themselves intermarry it will be seen that this condition is structurally different from the Dual Organization. In every instance it should be ascertained whether any definite customs, and traditions, and functions, apart from the regulation of marriage, are associated with the two moieties of the Dual Organization.

Both in the case of a classificatory system and of a class system, relationship is the chief means by which a person is given a place not only in the group of which he is a member, but even in groups with which he has only occasional contact. For instance, a very remote classificatory relationship to one member of another group may establish relationship to the remaining members of that group, and will determine the rights and duties towards them. Very often it is principally membership of a clan (so often associated with a classificatory system) which establishes relationship with members of the same or related clan, elsewhere, and in the case of a class system membership of the same or related class.

A system which is conveniently distinguished from the commoner varieties of the classificatory system and from our own may be called the *Descriptive System*. Its prominent feature is the use of the descriptive terms for brothers and sisters,

according to whether they are children of the same father or the same mother ; these terms are usually extended to children of the father's brother on the one hand, and to children of the mother's sister on the other. These systems are common in North East Africa. As noted above the use of this term should not be confused with Morgan's Descriptive System, which he applied to our own, which is more conveniently called the Family System.

Wherever the classificatory system of relationship (including the class system and the descriptive system) is found, the *family* as a group of near relations, in one form or another, also exists, and it is frequently found that the relationship terms may be used in different contexts without causing any confusion to native speakers and hearers. Some anthropologists have supposed that no distinction is made between a close relative and a distant classificatory one called by the same name. Investigation should be made concerning the attitude towards the near and the distant relatives classed together ; and, with regard to the terms, note should be taken of any differentiating devices (change of form or tone ; indication of context ; descriptive circumlocutions and additions) by which ambiguity is avoided.

Behaviour between Relatives.—Having obtained a list of relationship terms, the correct traditional behaviour towards all relatives should be ascertained, including relations in the classificatory sense as well as by kinship and affinity. It will be found that this varies among different peoples. The respect in which seniors are held may be shown in a traditional manner, but it is necessary to ascertain which relatives are regarded as seniors, as this seldom tallies with age. The father's brother and the mother's brother may be treated quite differently, and this has nothing to do with seniority but appears to be dependent on the type of social organization. For instance, where the classificatory system is found with patrilineal descent, the father and the father's brother are treated in much the same way ; that is to say, though the degree of intimacy may not be the same, the type of deference and the kind of demands made mutually will be the same. The

mother's brother, as male representative of the mother's family, may be treated quite differently. With patrilineal descent he frequently exercises no control, but is treated with a degree of intimacy and affection which would not be shown to the father or his brother. With matrilineal descent the position may be reversed, the maternal uncle exercising authority while affection is shown to the father and his brother. Again, where cross-cousin or ortho-cousin marriage is customary, that uncle who is theoretically the father of the bride is treated in the manner properly adopted towards the father-in-law. The attitude towards grandparents may be one of respect due to age, though among many peoples persons separated thus by two generations call one another companions and treat one another as such. Grandchildren and grandparents may even fall within the joking relationship, p. 72. The behaviour between parents and children may be formally regulated when the latter reach the age of puberty, also that between brother and sister. The behaviour of persons of the opposite sex within the family or larger kinship group is regulated by custom. There may be complete sex segregation, which may be regarded as the most complete form of *avoidance*, or, without any definite rules of avoidance, the sexes may eat apart, and sit and talk apart, or they may talk together, but familiarity and conversation of a sexual character is carefully avoided. Where there is no sex segregation it is frequently found that persons who stand in definite relationship to each other avoid one another ceremonially. These persons are usually of the opposite sex and usually related by marriage, *e.g.*, the most commonly practised avoidance is of the son-in-law and the mother-in-law, but avoidance between members of the same family, father and daughter, and brother and sister, also occurs, as it does between persons of the same sex, *e.g.*, a man and his father-in-law. Avoidance as a mode of behaviour is always said to express respect, and though the rules are mutual they are not equal, *e.g.*, it is the duty of a man to avoid his mother-in-law, and should he fail he has frequently to pay a severe penalty. The degree of avoidance may vary from prohibition to enter the

village where the particular person lives, to that of not mentioning the personal name, eating from the same dish, or smoking from the same pipe. The most usual form is the prohibition for son-in-law and mother-in-law to be found in the same hut at one time, and the necessity to address one another with head averted and to use extremely polite language.

At the opposite pole to avoidance is extreme familiarity; people who stand in certain relationships may commonly accost one another with buffoonery. This is commonly known as the *joking relationship*. The relationship here again is not equal; one person stands as the butt of the other's wit, and though he can retaliate he must not take offence, and can only do so in a jocular manner. Or a fiction of sentimental interest may be enjoined, or free conversation on marriage or on sexual matters may be permitted between certain relatives.

Wherever ceremonial forms of behaviour are in vogue it should be discovered whether all persons who are addressed by the same relationship terms are treated in the same way, for the ceremonial forms of behaviour may apply only to those who are closely related. Such ceremonial modes of behaviour may tend to overshadow the observance of the natural emotional reactions between members of the family or other relationship group. It should not, however, be assumed that the latter are obliterated by them.

Duties and Privileges.—It is usually found that definite duties, both economic and ceremonial, are undertaken because of the relationship tie that unites two persons. This is, of course, true of every society. Among ourselves the economic duties fall within a small group, and the ceremonial duties, though extending over a much wider sphere, are not very rigid. Among primitive peoples, on the other hand, duties of both kinds appear to be more binding and the sphere to be wider, and these may be found to correspond with the type of relationship system in existence. In investigating all ceremonies, especially those concerning birth, puberty, marriage, and death, the duties of all relatives should be ascertained. Similarly all privileges should be discovered, *e.g.*, among some peoples a man may take the property of his maternal uncle or

grandfather without special leave, while among others he may behave in the same way to certain relatives of his wife.

Relatives by marriage fall mainly into two reciprocal groups, (a) the kinsmen and kinswomen of the spouse, and (b) those persons who have married kinsmen and kinswomen. Whereas the term "mother-in-law" belongs exclusively to (a), "brother-in-law" in our nomenclature belong to both (a) and (b), and as it is used both by males and females includes four different kinds of relationship. Further relationships hold between a person and the spouses of the kinsmen and kinswomen of his or her spouse, *e.g.* :—

A man's brother-in-law is (a) his wife's brother, to whom a certain type of behaviour is due, (b) his sister's husband, to whom another type of behaviour may be due ; though this is a reciprocal relationship it is not one of equality. A woman's brother-in-law is (a) her husband's brother, whom in many societies she regards as a secondary husband either during her husband's lifetime or at his death, and her relationship to him may be different according to whether he is the elder or younger brother of her husband (*v. MARRIAGE AND RELATIONS BETWEEN THE SEXES*, p. 98), (b) her sister's husband, whose relationship to her may depend upon a man's right to marry the sister of his wife, and also alter according to her sister's relative age. It is obvious that these brother-in-law relationships are of different social values, and the customary behaviour will be found to be related to the social regulations of the people investigated. The ties set up by the payment of bride-price, or the services due by a bridegroom and his relatives to the relatives of the bride, as well as the customary marriage laws and rules of inheritance, may all influence the behaviour towards relatives by marriage.

The relations of the spouse are the relatives-in-law *par excellence* to whom special deference is due. Ceremonial behaviour, called *avoidance*, towards relatives of the spouse has already been mentioned. There is, however, great variety in the treatment of individuals ; thus though the avoidance of the mother-in-law may be observed, using the term in the widest classificatory sense, *i.e.*, all those women whom the

wife calls "mother" as well as all those who are called "mother" by all the men who are regarded as "brother," other relatives of the bride, *i.e.*, the wife's sister, and the wife's brother's wife, may be treated quite differently. A man usually avoids his wife's parents, and sometimes his wife's mother's brother, but less generally his wife's brother. A woman generally avoids her husband's parents. Avoidance may begin as soon as the betrothal is made, and last for life, or it may cease after a certain period, or certain payments may be made in order to terminate it.

The consorts of kinsmen and kinswomen fall into specific position according to the relationship in which these kinsfolk stand to a definite person; thus the wife of the father's brother may be looked upon as "mother," *i.e.*, other wife of "father." The husband of the father's sister and the wife of the mother's brother frequently hold positions of special importance.

CLAN-ORGANIZATION

Clan-Organization is typical of primitive peoples in most parts of the world. A clan is an exogamous group in which descent is reckoned on a unilateral basis, either matrilineal or patrilineal. Members of a clan always show some sense of solidarity, and, generally, a strong feeling of relationship, using relationship terms, such as those for brother or sister, between one another, even when unable to trace genealogical relationship. As a rule the clan is associated with the classificatory system of relationship. It should be noted whether descent is patrilineal or matrilineal (*v.* SOCIAL TERMINOLOGY, p. 57). Whichever line of descent is legally recognized the attitude to the other line should also be investigated, especially with regard to marriage prohibitions and totemic rules. Concrete instances should be recorded of the behaviour towards any persons who may be reckoned to belong to the clan of their father in a matrilineal society, or to the clan of their mother in a patrilineal society, and the native reasons given for this behaviour.

The term *clanship* or *sibship* may be used to indicate the tie felt by members of a clan for one another : the nature of this tie should be carefully investigated. The native may emphasize the common possession of a totem (*v.* TOTEMISM, p. 76), descent from a common ancestor, or, even, in some cases, common habitation of a village or district. All occasions should be recorded when clansmen combine for ceremonial or other purposes, as well as those times in the life history of the individual when he seeks co-operation with the clan. Notice especially whether any economic obligations obtain among clansmen, *e.g.*, in the sharing of food, garden produce, etc., *v.* ECONOMIC LIFE, p. 122, and to what extent legal responsibility for actions committed by an individual rests upon his clan as a whole (*v.* JUSTICE, p. 156). What part does the clan-organization play in connection with age-grades, secret societies, men's clubs ; with the ceremonial distribution of wealth, co-operation in economic activities ?

Although localization of the clan is possible, provided that the patrilineal clan is associated with patrilocal marriage or the matrilineal clan with matrilocal marriage, the system of exogamy tends to the dispersal of the clan members. The extent should be observed, and in those cases where localization is consistent with the marriage customs, dispersal should be looked for and the traditions to account for this dispersal collected.

Frequently the clan is found to be a political unit and a careful study of its political organization should be made. If there is a system of chieftainship, observations should be made as to the function of the chief both within and without the clan—whether the political power of the chief is at all local so that other clans in the neighbourhood recognize his jurisdiction, *v.* CHIEFTAINSHIP, p. 146. The relation between the political organization of the clan and that of the tribe should be investigated : are the clans political units for some purposes, the tribe for others ; do the clans elect a tribal chief ; is there a council of clans or chiefs of clans for deciding matters of tribal importance ; are there differences of political status between the clans ; are there certain clans which have

special political privileges, such as the election of a tribal chief ; is there a royal clan ?

Customs peculiar to certain clans should be looked for, such as differences in the methods of disposal of the dead. Are there shrines, groves or other objects sacred to each clan ? It should be noticed whether any of the clans favour certain occupations or whether any pronounced customary division of labour depends upon the clan-organization. Are there differences of social status between the clans, and are any of the clans especially associated with religious or magical practices, *e.g.*, does one clan provide the tribal feasts ; is a particular clan associated with rain-making, and so on ? For further aspects of Totemic Clans (*v. TOTEMISM below*).

Make a complete list of the clans existing, or formerly existing, among your people, and obtain any native legends as to the origin of the clans. Ascertain by means of the genealogical method to what clans the different relatives of your informant belong. Try to obtain statistics as to the size of the different clans.

TOTEMISM.

The term Totemism is used for a form of social organization and magico-religious practice, of which the central feature is the association of certain groups (usually clans) within a tribe, with certain species of animate or inanimate things, different groups being associated with different species. In the widest use of the term, we may speak of Totemism if : (1) the tribe or group said to be totemic consists of groups (totem-groups) comprising the whole people, and each of these groups has a certain relationship to a species (totem), animate or inanimate, (2) the relation between each group and species is of the same general kind for each group, and (3) a member of one of these totemic groups cannot (except under special circumstances, such as adoption) change his membership. It should be noted that totem relationship implies that every member of the species shares the totemic relationship to every member of the totem group.

If it is found, when investigating a people, that some persons pay special attention to certain species (refraining from killing or eating the animal, for example) while other persons show a similar attitude to other species, totemism may be suspected. A complete list of the totemic groups should then be made out; full details of the attitude and behaviour observed by each group towards its totem should be investigated; and the way in which membership of the totemic group is determined should be discovered. This inquiry may be facilitated by the use of pedigrees, and it will usually be found that the totemic group is a clan (*v.* CLAN-ORGANIZATION, p. 74).

An inquiry should be made as to the nature of the social bond uniting members of one totemic group; in particular, does the possession of the same totem debar people from marriage? Is the group as a whole responsible for the actions of its members, *i.e.*, for homicide and the payment of blood-price? Does the totemic group refrain from killing and eating its totem, or from using it if a plant? Are there certain occasions on which the totem is ceremonially killed and eaten, or used if a plant? What other avoidances are found in connection with the totem? Are there any special penalties for breaking any of the taboos; or any supernatural sanctions, such as sickness caused directly by the totem? Do dances take place in which the dancers imitate the actions of the totemic species, and in which they identify themselves in thought and action with the totem?

Are individuals considered to partake of the physical or psychical characteristics of their totem species? Are ceremonies performed to increase the totem, and is the totem represented in any way by means of badges, masks, mutilations of person, brands or other marks on domestic animals, ornamentation of objects, etc., whether realistically or symbolically? To what extent is there a sense of kinship with the totem, is the group known by the name of the totem? To what extent is the totem believed to protect the totemic group, or to render help by means of omens or otherwise? Look for myths of descent of the totemic group from the totem species, and for any beliefs concerning the soul,

reincarnation of members of the totem group in the totem species, or appearance of ancestors in totemic form in dreams or otherwise. All myths concerning totemism should be recorded.

Occasionally more than one totem is associated with a group. In such cases of *Linked Totemism* it should be noticed whether there is any subordination of some of the totems. An inquiry should also be made as to the existence of divisions within the main totemic groups. What is the relation of these *Sub-totems*, if they occur, to the main totem; are the sub-totems parts of the main totem? When the main totemic groups have been discovered and it has been noted whether or not these are exogamous clans, inquiry should be made for any other mode of division of the tribe into totemic groups, and the method of determining membership, *e.g.*, moieties, where there is a Dual Organization (*v. Relationship System*, p. 68), and marriage-classes with indirect descent, where these occur, may have a totemic nature, and there may be a division of totems between the sexes; it may even be found that there are two kinds of clans co-existing, matrilineal and patrilineal, or even totemic groups with a fortuitous mode of descent.

Careful inquiry should be made as to the functioning of the whole totemic system, and the interrelations of totems, for instance, avoidance of the father's totem where the clans are matrilineal and *vice versa*; avoidance of the totem of wife or husband, and avoidance by one clan of the totems of others. Have such factors political or economic value or any other meaning. It should be noticed whether the totemic system, as a whole, reflects a primitive attempt at classification; for totemic systems have been found in which the universe is, in a sense, divided up between the various totemic groups.

There are many examples of so-called "Totemism" in which only certain elements occur. These require careful examination and should not casually be termed "totemic," as they may be so different as not to fall strictly under that designation.

Certain relations between human beings and animals may here be mentioned which are often spoken of as "totemic," though they differ essentially from typical totemism, in lacking

its group organization : but a mental attitude similar to that of totemism is seen in the relation of an individual to his *Guardian-genius*, *Guardian-spirit*, *Personal totem*, *Individual totem*, etc. Where such beliefs exist a number of examples should be investigated, care being taken to ascertain in each case on what occasion the first feeling of association to the "totem" or "spirit" arose, whether it arose spontaneously or was expected, whether it marked a crisis in life, and how the object was treated by the individual henceforth. It should be discovered whether the majority of people of both sexes have such associations, or only specially favoured individuals. Very widely spread in America is the belief in a guardian-spirit which appears to a young man in a dream or vision after prayer and fasting. The vision usually refers to some animal, but may relate to a plant or thing. The method of obtaining the vision, of subsequently procuring a memento of it, and the effect on the life of the man require careful study. Note whether the power obtained in such a way can be bought or otherwise obtained from some other person, and whether the relation can be dissolved. Do those who have a similar guardian-spirit form societies and, if so, what is their nature and relation to other societies? The "spirit-helper" of the Iban of Sarawak is somewhat similar, but sometimes a man's immediate descendants, or if he is a chief all the members of his community, may participate in paying respect to the form assumed by this manifestation of a dead relative.

Sex patron, *Animal Brethren*, or *Sex totemism*, is typical of, but not confined to, south-eastern Australia. This is a peculiar association of a species of animal (usually a bird) with each sex, which occurs in addition to typical totemism.

All divergencies from typical totemism should be looked out for and described.

AGE-GRADES

Organization.—In all societies the members tend to form groups, both for work and recreation, according to their

relative age, and among primitive peoples sex segregation also is usual; words will generally be found in use to classify individuals of both sexes from infancy to old age. It is only when there is found social cohesion in these groups that they should be termed *age-classes* or *age-grades*. The bonds of age fellowship unite the age-fellows of the tribe and cut across those of kinship and clan brotherhood. Among many warlike peoples society seems to be organized predominantly on an age basis. The lower grades act as schools in which endurance and restraint are taught, the central grades form the military force, and the upper grades the administrative power. Corresponding to the men's grades may be grades of girls who cohabit with the warriors, and women who marry the seniors. Even where the function of the age-grades is less definite, there may be social and other economic ties between age-fellows—they may help one another in work, borrow one another's property freely, and play a part in the choice of a mate for their age-fellow, and in the ceremonial of betrothal and marriage. In some cases the men have right of access to the wives of their age-fellows; age-grades may also regulate marriage by means of prohibition. As age is a factor in rank with its rights and privileges in matters of precedence, food, dress, decoration and ceremonial, and as the initiation ceremonies into the grades are usually secret, there is much in common between age-grades and secret societies, p. 152, and even in societies where the age factor is the dominant one, other factors, such as wealth, may play some part. The essential character of the age-grade system as opposed to the secret society is that the former is democratic; every man is a member of his age-grade, and as the grade rises in rank he passes through, simultaneously with all its other members, every stage of society in his own tribe. The secret society on the other hand is selective, and exercises considerable power over persons who may never be able to enter its ranks. Payments of some kind are often necessary on initiation into each age-grade, and while these may be small contributions to a ceremony or feast usually within the scope of all and, though they may be made separately,

all the members of the grade rise in rank together. This feature of the age-grade organization breaks down where the initiation fees are heavy. Age-grades are usually named, and these names must not be confused with the terms indicating physiological age; in many systems a person belongs to the same group all his life, while in others he passes from one named grade to another. The names are frequently topical, referring to some event in connection with the initiation ceremony. They are often arranged in a definite series when either the same names recur, or the grades may be considered as sub-divisions of groups that recur. The number of grades to a generation is usually fixed, but may vary even within the tribe, but where the cyclic factor in age-grades is present an alternation of generations is seen, thus a man and his eldest son cannot belong to the same named grade or group. As well as the grade initiation ceremonies there may be larger and more important ceremonies occurring at longer intervals when the government of the country is handed over from one group of grades to another.

Age-classes of high social but of less political and religious importance may form social groups to which the individual shows life-long loyalty; the simplest of these are little more than friendship ties between groups of persons of one sex, born within given dates. All details in the organization should be ascertained; if there be a definite periodic interval between the ceremonies it should be noted; if not, the causes of initiation into a new grade should be ascertained.

Ceremonial.—One of the most common ceremonies of initiation into age-grade organization is the puberty rite of circumcision or incision, with the corresponding female operations. Other mutilations, such as knocking out of teeth or scarification, are also widespread. But mutilation is not a necessary part of age-grade organization. Other ceremonies occur, such as extinguishing all fires, followed by a ritual rekindling, dramatizations of death and birth, sacrifices, and rites of purification. It may be necessary formally to forgive an initiate his faults, and a criminal may be refused initiation. Seclusion is very common and usually involves a definite

course of instruction and ordeals, and imposition of food and other taboos. Occasionally the lowest grade initiation may be common to both sexes.

All ceremonies should be described in detail as far as possible; there may be some difficulty as the higher grades may be secret. Where payments are made it should be discovered by whom and to whom, as well as who provides all animals for sacrifice. Special cults and cult objects connected with the ceremonies should be described.

Function.—The age-grade is a tribal institution, its function may be mainly educational, including sex instruction, military, administrative, religious, or social (as where age-fellows eat together and act as hosts to travelling fellows). Commonly all elements exist, but the emphasis varies.

SOCIAL GATHERINGS

In addition to the definite groups and groupings, such as tribe, clan, etc., individuals may be grouped together for certain purposes on certain occasions, recurrent or exceptional. Investigation should be made as to the nature and purpose and organization of such gatherings—whether primarily for recreational or ceremonial activities, such as dancing; for political purposes, such as the settlement of disputes; or for economic purposes, such as the holding of markets; whether these gatherings are tribal, intertribal, or local, or dependent on any other social factor. If recurrent, the intervals of time between such gatherings should be ascertained; and if exceptional, the circumstances which give rise to them.

RULES OF HOSPITALITY

Rules of Hospitality should be inquired into both concerning special social gatherings and on ordinary occasions. Are club-houses belonging either to the local or social groups (village, clan or age-class, etc.) used also as guest-houses, or are guests received by the headman or other recognized functionary? Is there any form of permanent or hereditary

guest-right? Is it reciprocal? Is guest-right a private or personal affair between individuals or social groups, or is there any public guest-right? Can guest-right be suspended or forfeited? If so, for what cause?

Guests will usually have some recognized credentials, they may be traders, pilgrims, or persons whose relationship to someone in the local group, clan or tribe is known. Is the acceptance of hospitality accompanied by any rite, such as blood-brotherhood; if so, inquire into some concrete instance that has occurred. The arrival of absolute strangers in a locality would be rare except under European influence, unless they were refugees from some other tribe or community. How would such people be treated? Is any right of asylum recognized? Does a host give protection to refugees? Is he ever bound by honour to espouse their cause? Would refugees be given an honoured or degraded position in the society into which they were received? Note whether shipwrecked people are killed, and why.

What is the general reaction to the knowledge that strangers have trespassed on hunting or grazing grounds? Can permission for such privileges be asked, and would it usually be granted? Would any recompense be expected?

Are guests given wives or temporarily accommodated with women? Is it desired that they should beget children in the place? What payments or services do guests offer to their hosts? Is the guest sacred, and, if so, how is it shown? Is his blessing valued, or his curse feared? Does he have to undergo purification before being entertained?

Describe any concrete examples you may be able to observe or record of the arrival and treatment of guests, personal or public, pilgrims, traders, wanderers or strangers, and their tangible credentials.

LIFE HISTORY OF THE INDIVIDUAL

DAILY LIFE

A full description of the *daily routine* of typical men and women, well known to the observer, is imperative. An approximate time-table and calendar of village or household life should be constructed, including the hours for rising and retiring, beginning and ending work, preparing and taking meals, driving out, watering, milking, and bringing in domestic animals, and the time spent in recreation, talking or story-telling. The native name for each division of the day should be given. Note whether the habits of the people are orderly, or irregular and desultory. It should be noted whether there are persons in the community whose daily routine is markedly different to that of the majority. The cause should be sought. It may be temporary, owing to some ceremony such as mourning, or permanent and be associated with occupation or rank.

Customs and Etiquette are difficult to describe fully, for the very reason that they are so constantly in evidence. General opinions as to the manners of the people are of little value unless they are supported by illustrations supplied by incidents actually observed. Under this head may be recorded (1) *salutations*, noting if they differ according to rank, relationship, and sex; forms of greeting and farewell; forms of meeting between enemies in truce, and strangers; (2) *rules of hospitality*, p. 82, between kinsfolk, neighbours, strangers, and enemies; (3) *forms of address*, ceremonies and official phrases, the use of *titles*, and rules of *precedence*; (4) rules of *politeness*, in the household and between strangers; of propriety for the association of men and women, and for the treatment of women, children, and old people; rules of conduct and respectful demeanour for the young; behaviour towards Europeans and other foreigners; (5) the *etiquette* of meals, festivals, hunting, public meetings, and social intercourse generally (*v.* also *Food*, p. 214); the estimation of drunkenness in either sex, in private, and on public occasions;

(6) the standard of *decency* in natural functions, behaviour, and conversation, for men, women, and young people.

BIRTH

Note any special observances, diet, or restrictions for pregnant women, prospective father or other relative? How long before the actual birth do these become operative. Where does birth normally take place? If for any reason the normal course of events cannot be followed is it considered of ill omen to the child or the mother, and are special measures taken subsequently in consequence? Are any preparations made in anticipation of child-birth? What assistance is provided during labour and by whom is it rendered, and is payment made for such assistance? Note any customs or beliefs regarding the after-birth, umbilical cord, or other matters incidental to childbirth. If a woman dies in labour, are any means taken to save the child? Is any special importance attached to the first child or first child of either sex? Are they treated in any different way to subsequent children?

How is a child treated at birth? Is any attempt made to save still-born children? Are there any customs or beliefs about twins or unusual births, or infants born with any abnormality, such as being born with a caul or with teeth, or children whose upper teeth appear before the lower? Are twins or triplets common? Is the mother of twins or triplets treated in any special manner? When are children named? Who gives the name? Describe all beliefs and customs connected with personal names, p. 87.

How long is the mother disabled? Is she subject to special diet, restrictions, or purification after childbirth? If so, for how long, or at what interval after the birth? What is the normal duration of suckling? Are there any restrictions upon diet, occupations, or use of objects as regards the father or other relative, and for how long must these be observed? Are there any special taboos for either father or mother (v. RITUAL CONTINENCE, p. 105).

Infanticide.—If, in working out the proportion of the sexes

(v. GENEALOGICAL METHOD, p. 47, cf. p. 62) it is found that there is a preponderance of males or females, the question will arise whether this is due to the existence of infanticide, and attempts must be made to discover whether it is practised, and, if so, to what extent. There are certain subjects, such as cannibalism and infanticide, which are known to be reprehended or punished by the civilized, about which the utmost reticence is usually practised. It is a mistake to inquire into such subjects at all at an early stage, but nevertheless attention should always be directed to any chance indications of such practices which may inadvertently be given by the people, and when confidence has been thoroughly established, an attempt may be made to learn the full truth. Their existence in the past should be inquired into in any case. The reply may give an opening for inquiry about the present. In the case of infanticide, inquiry should be made into the sex and age of those killed; the method of killing; the person or persons who decide whether a child is to be killed; whether deformities or other peculiarities are regarded as a cause; whether one or both of twins are destroyed; the reason given for infanticide. Any tales or traditions connected with the practice, and any ideas connected with it, should be obtained.

Abortion is a closely connected subject. The existence and frequency of this practice should be inquired into and the methods employed obtained. There may be definite rites believed to produce abortion, and, if so, they should be fully described, with their formulas. If drugs, such as leaves or roots, are used, samples should be obtained. The motives for the practice should be obtained if possible. Inquiry should also be made whether drugs or rites believed to produce sterility, temporary or permanent, or to secure fertility are employed (v. *Medicines*, p. 347).

Contraception.—Is contraception practised, and, if so, what means, ritual or physical are employed? What motive is given for the practice?

Ignorance of Physiological Paternity.—Some primitive peoples do not understand physiological paternity, and they are often uncertain as to the length of time of gestation. Although

sexual connection is recognized to have taken place, conception is sometimes believed to be due to the action of spirits (often ancestral), through the agency of certain foods, sea foam, the sun, etc. These beliefs may be reflected in the mythology and customs of the people. If the part of the father is not understood inquiries should be made as to the native ideas of causation of conception in human beings and in animals. Are there any myths of women having conceived without having had connection with a man ?

NAMES

Ascertain whether people have several names and, where possible, the significance of these. Are temporary names given to infants ? When a child is given the name of a god, hero, or deceased relative, does this imply any idea of reincarnation ? Ascertain fully how each name was acquired ; by whom and on what occasion it was given, and when and by whom it is used ; whether it was changed at some special epoch : on the occasion of illness, the birth of a child, the death of a relative, with another person, or because of some change in a social status, etc. In each case obtain any ceremonial or observances connected with the change of name. The pedigrees obtained by the Genealogical Method (pp. 49-54) will furnish a large mass of material for the study of the nature of personal names. Note whether there is any difference in the nature of names for men and women ; whether personal names are derived from the names of animals, plants, objects, places, etc. ; whether there are special prefixes or suffixes, and, if so, obtain their derivation and meaning. Note whether certain names are looked upon as belonging to particular clans or social groups ; where this is so, notice whether these names occur sporadically in other groups, and, if so, inquire into the reason for their occurrence. Are names given to domesticated animals ? Do men ever call themselves by the names of their favourite beast ?

Inquire fully into all conditions under which personal names are avoided or uttered reluctantly. Note especially

whether people may say the names of the dead, of chiefs, or special relatives. If names so avoided are also the names of objects, ascertain if the avoidance extends to the latter, and, if so, obtain the words used instead. Obtain the method of referring to a person whose name may not be uttered; whether, for instance, he is spoken of as the father, son or husband, of so-and-so; as the man born at a certain place, etc. Inquire into the results of uttering a name which should be avoided, and ascertain whether any special significance is attached to such utterance, especially in the case of names of relatives. Obtain the proper names of special objects, houses, domestic animals, etc., and find out if these names are subject to any special rules or restrictions.

EDUCATION

Education in its widest sense means training, and there are few people which have not some form of training for the young. Physical training begins in early childhood, and those children's *games* which mimic the employment of their elders form a kind of education. More serious instruction in hunting, agriculture, etc., handicrafts and household arts, is usually given by relatives, or through some kind of apprenticeship. Singing and dancing are practised by children and young people. In some cases the education of boys and youths is provided for by their attendance on the king or chief.

Ordeals and initiation ceremonies which lads (and sometimes girls) have to undergo at puberty, before admission as adults or as warriors, constitute a short but sharp training, though employed primarily as tests of bravery and endurance. During initiation into manhood there is often a prolonged isolation, usually accompanied by various hardships, which altogether is an education of no mean rigour, lasting from a few weeks to many months or, in some cases, even years. Discipline is then rigorously maintained, and all kinds of food and other restrictions are enforced, the breaking of which is severely punished—the death penalty may even be inflicted. At this time information is usually imparted to the lads concerning

tribal usages and beliefs, taboo restrictions, practical ethics, and their code of morals ; even a new language may be taught.

The education of sorcerers or medicine-men is usually still more severe, and it is important to learn every detail of the training the novices have to undergo. The step is not great from this to the training for a priesthood. The possession of a sacred book often leads to systematic instruction in reading and writing among people whose culture is otherwise low.

General Provisions.—Are children entrusted to foster-fathers or foster-mothers or special relatives for education ? Are children lodged in a separate building ? or subjected to regular discipline ? Are there schools or professional teachers ? Give particulars of the instruction, if obtainable. Is any education given to girls ? if so, by whom ? Till what age does formal education continue ? Is there a special education for men or for women ? What education is given to the children of kings, chiefs, and nobles ?

Careful observation on the training of savage children has seldom been made. General observation shows that infants are indulged and treated with great kindness while correct behaviour is expected of children before they reach the age of puberty. The intermediate period requires study. Who is responsible for the behaviour of the child—one of the parents (if so, which one ?) or some other relative ?

How is training begun ; by exhortation, punishment or rewards ? Example or warning by means of folk-tales ? Is the approval or disapproval of some higher (spiritual) power sought ? If punishments are used, what is the nature of these, and by whom are they administered ? Are punishments deliberately arranged or may elders retaliate when they are irritated by the children's behaviour ? what is the public opinion concerning an elder person who is sharp or irritable with children ? (v. NOTE ON PSYCHOLOGY, p. 171).

Physical Training.—Is there any recognized system of physical training ? Is there any test of physical endurance or of bravery, either as a distinct custom or during initiation ? Are the young men directly instructed when out fishing, hunting, or fighting, or do they learn solely by imitation ?

Mental Training.—Is there any mental training apart from periods of initiation? In either case describe what takes place. Is a secret language ever taught? Under what circumstances are legends or poems taught and recited? Is there a special class of men whose duty it is to learn, repeat, and teach these? Is there a sacred book? What proportion of the population can read and write? Is music taught? Are dances taught, or learnt by imitation?

Moral Training.—Is there any special occasion on which the customs of the tribe or moral code are taught? Obtain particulars, if possible, of what is said and done on these occasions? At what age is a child expected to know this code and conform to it? Is any distinction observed in the treatment of juvenile and adult offenders? How are children punished, and by whom? and is there any difference in punishments for girls and boys? How far is the fear of the supernatural an element in training? Is respectful demeanour inculcated? Are young people reproved for being forward or impudent? What is the standard of politeness and decency for young people, as regards behaviour and conversation?

Is any sort of knowledge thought improper for young people?

Are girls guarded by their parents?

Professional Training.—How are trades and handicrafts taught? Is there any sort of apprenticeship? Is there any course of education for doctors, musicians, dancers, metal-workers, or any other class of specialists? What kind of training is given to rulers, priests, sorcerers, medicine-men, and diviners? How are suitable candidates chosen? At what age does the training begin and end? Give any actual examples of such training which have come under your notice, and note the apparent effect on the physical, mental, and moral condition of the pupil.

PUBERTY AND INITIATION

Among many peoples, the lads, as they cease to be children, and also the girls on having their first menstrual period,

or on attaining marriageable age, are the subject of ceremonies which admit them to adult life, and to full membership of the community. Many of these ceremonies are performed secretly, or only in the presence of persons who have already passed through them. Among the most frequent of these observances are abstinence from food or from particular kinds of food; seclusion and other restrictions; mutilation of various kinds, ordeals, hardships and pain; the conferring of a distinctive dress, ornaments, or personal marks (such as tattooing); or of a new additional name, or of adult rank, privileges, or obligations; coupled often with formal instruction in the moral and social code (*v.* EDUCATION, p. 90, and DEFORMATIONS, p. 192). Even if a stranger is not permitted to witness a ceremony, he may often obtain important information by judicious and opportune inquiry. Care should be taken to ascertain whether ceremonies are performed at particular seasons, whether for individuals or for all who are of age to undergo them. Where is the ceremony performed and by whom? Must all young persons undergo the ceremony? How is it known that they are ready for this? Is any one refused admission, or rejected for any defect or failure? Are ordeals of such a nature that death of the initiate is ever caused? What classes of persons may be present? Who are the organizers and performers, and what is their relation to the candidates? What are its duration, nature, purpose, and effects? By what tokens is it known that a person has undergone the ceremony? Is it confined to the tribe or community, or do the same ceremonies admit individuals from different tribes or communities to the same membership?

Are there degrees of initiation? How are they distinguished, and what are the qualifications for admission to each of them? Are any instruments or emblems or natural objects employed in the ceremonies? If possible obtain specimens, or at all events drawings or photographs. Are there any ceremonial songs, phrases, passwords, or signs? Is it believed that ghosts or spirits are present during the whole or any part of the initiation rites? Are any of the people who officiate in these

rites supposed to represent ghosts or spirits? Are initiates supposed to suffer death and rebirth? Are there any myths referring to these customs?

There may be initiation rites preparatory to admission to certain ceremonies or to a change of status or privilege. The recognition of the young man as a fully responsible member of society may depend upon his passing through several of these initiation rites (*v.* AGE-GRADES, p. 79, and SECRET SOCIETIES, p. 152). The foregoing notes and queries apply equally to all of these.

MARRIAGE AND RELATIONS BETWEEN THE SEXES

In studying the relations between the sexes it must be borne in mind that the marriage relation may be very different from that of civilized peoples. It is therefore important to understand the attitude towards pre-marital and extra-marital sex-relations, and beliefs concerning them. Where possible information should be obtained concerning the pre-puberty sex-relations of children, since the European convention that children are sexless is not necessarily universal or true. It must be further noted that coexistent with the natural sex attraction there is an equally natural sex antagonism. This may be openly shown or may be expressed in ritual.

PREMARITAL RELATIONS

With regard to pre-marital as well as marital practices there is likely to be some discrepancy between the traditional rules of conduct and the actual facts among savages as there is among civilized peoples. The general rules may be ascertained easily, while it is only with the greater intimacy with the people, that comes from a prolonged stay among them, that the real conditions can be known.

Pre-marital Chastity.—It should be discovered whether this is enjoined upon either sex. If so, what measures are taken to enforce it, and how are breaches of this rule treated?

Pre-marital Freedom.—Where this is allowed is it regulated (a) by those regulations which control marriage, p. 93;

(b) by age-grade or age-class distinctions? Is it encouraged by authority, or merely tolerated? Is it an end in itself, or is it a method of courtship leading up to marriage? Where do such unions take place? Are they permitted in: (1) the girl's parental house; (2) a special girls' house; (3) the bachelors' house; (4) the gardens or the bush? Are offspring of such unions frequent? Are any means taken to prevent conception or to produce miscarriage? When children are born of such unions are they permitted to live, and, if so, what is their social status?

After marriage does a girl adopt any special attitude towards her pre-marital lovers, *e.g.*, is continued intercourse permitted. Does she avoid them? (*v. Avoidance*, p. 71).

CONDITIONS OF MARRIAGE

Marriage is a more or less stable relation between people of opposite sexes in which the social and economic status of the partners and their offspring is recognized. It will be found that, among every people, there are certain laws regulating marriage.

Laws regulating Marriage may be laws of *prohibition* or *injunction*, or both.

(A) *Prohibition*.

(1) *Incest* is sexual intercourse between prohibited degrees of kindred. There is no general rule as to what these degrees are. In every society they must be ascertained by careful investigation (*v. GENEALOGICAL METHOD*, p. 44). Incest rules may range from the prohibition of sexual intercourse with members of the family to prohibition of intercourse with any person to whom kinship can be traced.

What penalties for incest fall on: (a) the individuals concerned; (b) the community as a whole? Are such penalties enforced by authority, or are they believed to ensue automatically by the action of a supernatural force? Is there any correlation between the severity of the penalty and the nearness of the blood-tie of the partners in guilt? Should children, be born as the result of incestuous unions, how are they treated? Record any example of incest that is known to

have occurred within the memory of your informants, and find out the native opinion concerning this incident.

Myths recording incestuous unions of gods or heroes are frequently found among peoples who have a horror of incest. Native opinions concerning such myths would be of interest.

Legalized Incestuous Marriages.—In some societies where definite rules against incest exist for the people as a whole, unions within the prohibited degrees are permitted for certain people—chiefs or others of high rank. Where this occurs it should be discovered whether it is the privilege (or duty) of the heir apparent only or of the whole ruling family. Inquiries should be made both among the families where such unions are allowed and where they are forbidden, and the psychological and sociological effects of such unions considered in both groups. What reasons are given for these unions by those who practise them, and how are they regarded by those to whom they are prohibited? Are all degrees allowed, or is the mother-son or any other particular form of union prohibited? If not definitely prohibited does it in practice occur, or is it considered unattractive or undesirable? Is there more, or less, strict sex segregation in the families where such unions occur than among the ordinary people? Does courtship and union tend to take place without definite marriage ceremonies being performed? Is a bride-price paid? Is there any definite form to show that the early family relationship between a given couple is broken and a new tie formed? Are such unions considered as binding as ordinary marriages and can these couples divorce formally? Are such the only unions allowed in these families (or to such persons) or are these unions preferred? Do these persons or families who marry within the prohibited degrees use relationship terms in the same way as the ordinary population? Do such unions tend to stabilize a physical type (demonstrate by photographs, if possible), or is it generally believed that they do? Are any special character traits demonstrated by those who practise these unions?

For ceremonial incest see RITUAL UNION, p. 105.

(2) *Exogamy* is the rule prohibiting the marriage of an

individual to any person belonging to the same social or local group as himself. This social group is usually the clan. The rules relating to exogamy should be investigated in the same way as those relating to incest. The infringement of the one set of rules does not necessarily imply the infringement of the other, though they may frequently coincide; *e.g.*, with both patrilineal and matrilineal descent the union of brother and sister is incestuous, and also violates the rule of exogamy. Among peoples having matrilineal descent the union between father and daughter would be incestuous, but would not violate the rule of exogamy. Among many peoples having patrilineal descent marriage with a member of the mother's clan would be regarded as incestuous by virtue of the kindred relationship, but would not violate the rule of exogamy.

(3) *Endogamy* is the rule which prohibits a person from marrying outside a certain social group of which he or she is a member, *e.g.*, Caste in India, and certain local groups.

(4) Prohibitions regulating marriage controlled by other social groups; *e.g.*, the age-class.

(B) *Injunction*.—It is frequently found that certain marriages are enjoined; the observer should record all the sociological effects of such marriages, as well as inquiring into the native reasons for conforming to custom rather than exercising free choice in finding a mate. Where it is incumbent upon certain individuals to marry certain other individuals this may be regulated by: —

(1) Kinship, *e.g.*, marriage with mother's brother's daughter. This is the cross-cousin marriage. There are two kinds of cross-cousin marriage, one in which a man marries the daughter of his mother's brother, another in which he marries the daughter of his father's sister; often both kinds are practised. Information should be obtained as to which cross-cousin is preferred and whether, if marriage with one is enjoined, the other is prohibited.

(2) Classificatory relationship, *e.g.*, marriage with the classificatory mother's brother's daughter. Is this marriage regarded as equivalent to a marriage on a kinship basis, or

resorted to only when no person of the required degree of kinship is available ?

(3) Membership of a certain social group.

(4) Relationship by marriage, *e.g.*, mother's brother's widow ; deceased husband's brother ; father's widow, etc. (*v. Secondary Marriages*, p. 98).

Are enjoined marriages obligatory for the whole population or only for people of a certain rank, *e.g.*, chiefs, commoners, slaves ? Do enjoined marriages refer to the first or principal spouse or to all the spouses ? Where marriages are enjoined are the parties concerned able to evade the obligation in any way should marriage be distasteful to either party ? If so, is it the man's or the woman's privilege to do so and how is this brought about ?

FORMS OF MARRIAGE

Residence and Place of Cohabitation.—Do the husband and wife live in the same house or does the husband visit the wife ? Is the marriage *Matrilocal* or *Patrilocal* ? Where it is patrilocal is any period spent with the wife's group by the husband and wife or by the wife only ? Do the newly married couple live in a dwelling of their own or in a room in the dwelling of either the bride's group or that of the groom, either permanently or for a period whose duration is fixed by the birth of a child or other prescribed custom ; or do they occupy a temporary hut ? If so, inquiries should be made concerning any ceremonies which may take place when they leave it to take up a permanent abode. Ascertain in a similar way the place of residence when the bride or groom, or both, are slaves (*v. SLAVERY*, p. 150). Does the groom sleep or eat in his house or does he live elsewhere, *e.g.*, a club-house, and visit his wife ? Where does cohabitation normally take place and when ? Are there any places where, or times when, it is definitely prohibited, *e.g.*, after pregnancy has been recognized or during lactation ? (*v. also RITUAL UNION AND RITUAL CONTINENCE*, p. 105). If possible make inquiries as to the frequency of intercourse. Is there considerable variation, and is it regulated in any way by custom ?

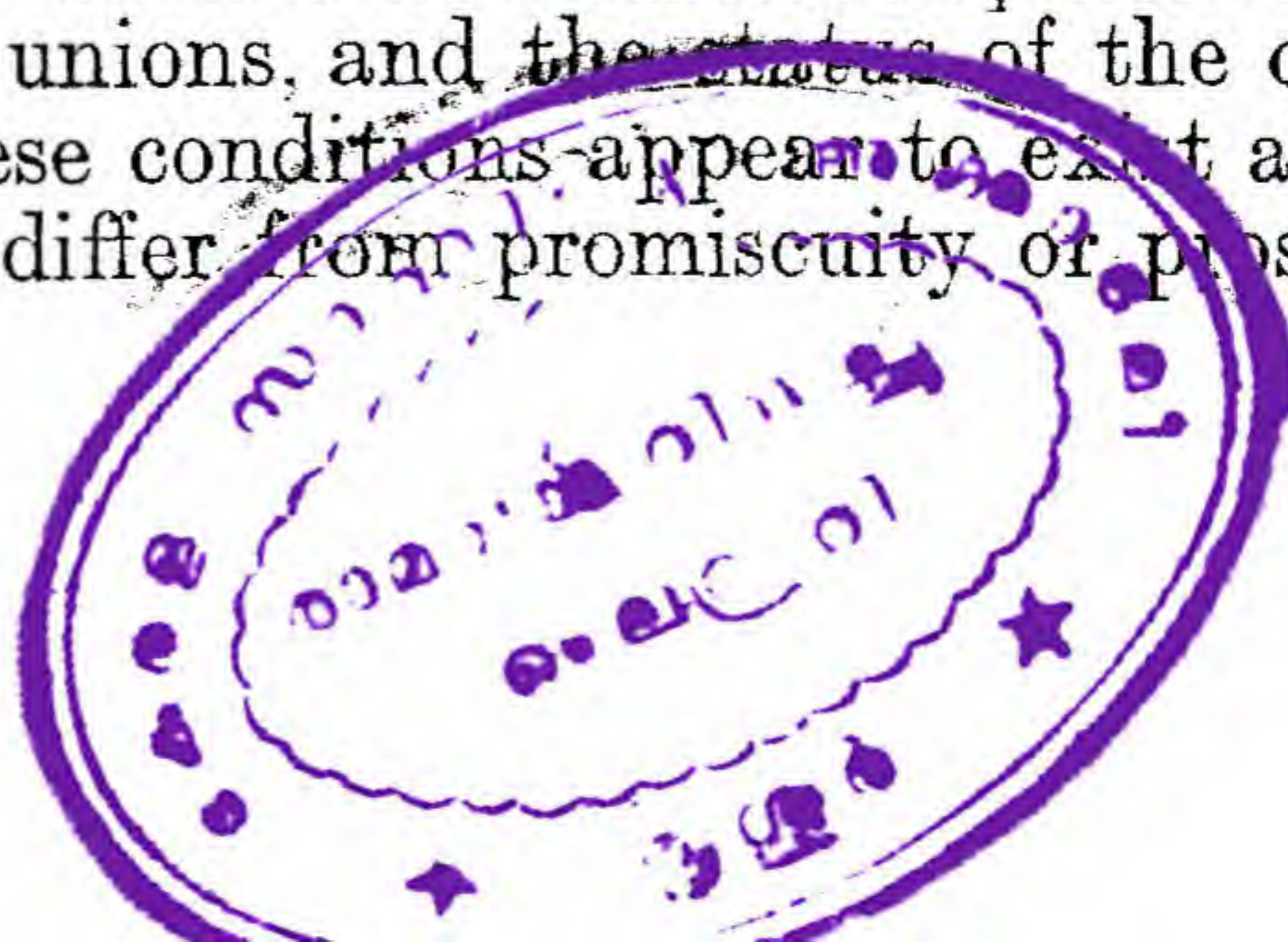
Monogamy.—Where monogamy is practised it should be ascertained whether this is due to poor economic conditions, a scarcity of women, is enjoined by authority, or is really preferred.

Polygyny.—Is this permitted to the whole community or to a privileged few? If the latter, is their privilege due to rank, individual achievement, or wealth? Is there any limit to the number of wives? Does each wife have her own household or do they all live together under the control of the chief wife? Is the husband's attention to his wives regulated by custom? Does each wife have special duties or privileges towards the husband or the upkeep of the joint household? Must the consent of the chief or first wife be obtained before the taking of other wives? Are the same marriage ceremonies observed in the case of subsequent wives as in those of the first wife, or are they less elaborate?

Polyandry.—Is this common or practised by certain individuals or a certain social group as a result of either a shortage of women or economic pressure? Are the husbands necessarily related by ties of clan, consanguinity, or blood-brotherhood? Where the bride-price is customary do all the husbands contribute equally or in certain proportions towards it? Are there any regulations as to access to the wife, and, if so, what are they? Does the child of a polyandrous union consider all the spouses of his mother as his fathers, or does one individual claim this function? If so, how is this regulated? Are all the husbands responsible for the support of the woman and her offspring, or is the sociological father of her children alone responsible?

SUPPLEMENTARY UNIONS

Unions between groups of persons.—Unions between groups of persons have been the subject of so much theoretic discussion that, wherever conditions exist in any way resembling so-called *Group Marriage* or *Sex Communism* careful inquiries as to the exact nature of these unions, and the status of the offspring should be made. These conditions appear to exist alongside of true marriage and differ from promiscuity or prostitution



in that they are regulated by definite rules (*e.g.*, the *Eriam* of Bartle Bay, British New Guinea; the *Pirrauru* of the Dieri, Central Australia); and the rights exercised by certain relatives, clansmen or age-group fellows, such as are found among many African peoples. These rights seem in their own localities to have a definite social value (*v. Age of Marriage*, p. 99). Under this heading the right to exchange wives or lend wives should be considered.

Secondary Marriages.—The choice of secondary mates may be free, but certain secondary marriages may be enjoined, and are usually dependent on the laws of inheritance and the status of widows. The most common is that known as the *levirate*, by which a man is bound to marry his brother's widow. This type of marriage may be practised in societies founded on either a patrilineal or matrilineal basis. Usually a man may marry his elder but not his younger brother's widow, and in patrilineal society his father's widow (not his own mother), though sometimes when several widows are left one may go to the sister's son of the deceased. Marriage with the widow of the grandfather also occurs, and an unusual type is with the widow of the mother's sister's son. In all such cases it should be ascertained: (1) Whether these secondary wives are taken without a bride-price or whether a smaller payment is made, and, if so, whether this is called a bride-price or is considered under a different category, *i.e.*, as an inheritance fee, if so, to whom is it paid, to another heir of the deceased or to the woman's relatives? (2) Whether the widow has any choice, (*a*) within the group of correct heirs, (*b*) can she refuse, and marry someone of a different group—if so would a bride-price be paid to the correct heir, and must some special ceremony be performed to free her from her deceased husband or his group? (3) Can the heir waive his claim to the widow; if so, what is her status (*v. STATUS OF WOMEN*, p. 108)? (4) Is any marriage ceremony performed, and, if so, does it differ from that with a first wife? Among some peoples where such allocation of widows is the custom they do not really constitute marriages, for the widow is still accounted wife to the dead man, and her children by her second husband are looked upon

as children of the dead man. Such cases appear to be intimately connected with ancestor cult, and inquiries should be made as to sacrificial duties of such widows and children.

Another type of secondary marriage is that in which a man may take a second wife from the same group as his first wife. The most common is with the wife's sister. This is usually known as the *sororate*. It is unnecessary here to discuss whether the levirate and sororate have a common origin, but it should be noted that their function is different; the levirate provides a status for a widow, the sororate gives a husband a second wife, either in the lifetime of his first wife, or at her death, or if she should prove barren. Both sororate and levirate may be practised among the same people. Inquiries should be made as to whether sisters must be taken as wives in order of seniority. Other marriages of the same type as that with the wife's sister are those with the wife's brother's wife or her daughter, *i.e.*, the wife's brother's daughter. Where such marriages are habitual inquiries should be made as to the bride-price and marriage ceremony. For the effect of secondary marriages on relationship *v.* RELATIONSHIP SYSTEM, p. 73.

Concubinage and Cicisbeism.—Can a man or woman have a more or less permanent union with one or more women or men without giving them the full status of consort? Under what conditions does this arise, and what is the status of the offspring of such unions? Are any ceremonies observed when such a relationship is entered upon?

PRELIMINARIES TO MARRIAGE

Age of Marriage.—In some societies the old men appropriate the young women. It is therefore important to ascertain the relative ages of husbands and wives. Is it habitual for a man to marry before attaining puberty, on attaining puberty, or is his marriage postponed for any definite period after this? Is the length of this period determined by custom, such as military or other duties, or by economic conditions, or both? If marriage is postponed after puberty has a man right of access to the wives of any married men? (*v. Unions between*

Groups of Persons, p. 97). Similar inquiries should be made concerning the marriage age of a woman. Male as well as female infants may be betrothed or married to an older partner. Both cases should be investigated carefully. If a nubile girl is married to an infant bridegroom and goes to live in her "husband's" house, is she expected to remain chaste until he grows up, or is it customary for her to cohabit with some member of the family who stands in a definite relationship to the bridegroom? If an adolescent is married to an infant bride, may he take other wives before the marriage can be consummated, and, if so, is the infant bride the first or chief wife?

Defloration.—This may be unimportant, or, if important, may be part of the puberty ceremonies, *v.* PUBERTY AND INITIATION, p. 90, or of those of marriage. As part of the marriage ceremony it should be ascertained whether it is performed naturally or mechanically. By whom is it performed—husband, overlord, priest, stranger, or a person or group of persons belonging to a certain social group of which the husband is a member, *e.g.*, age-grade? Does this act set up a definite relationship between the girl and the performer or performers of this ceremony? When and where does it take place? Is it believed to be dangerous, and, if so, are any magical or other protective ceremonies performed? Is it believed to have any magical virtue?

Betrothal.—*The age of betrothal* may vary from infancy until after puberty. Among some peoples it is possible for a child to be promised in marriage before birth. Inquiries should be made as to the age at which the child is informed of the fact, and as to whether infant or child betrothals are binding if they should prove distasteful or unsuitable.

Arrangement of Betrothals.—Betrothals may be arranged by the parents or group of the parties concerned, or may be purely the outcome of courtship, which may be initiated by either sex. In either case the settlement of a bride-price may be the custom. What are the conditions of courtship? Are there go-betweens, and, if so, for what reasons are the selected individuals chosen for this office? Is the consent of the following

necessary : parents, kindred, clan or other social group ; overlord of either or both parties concerned ? What is the usual duration of betrothal ? Is the behaviour of a betrothed couple regulated in any way by custom ; *e.g.*, must they avoid each other, are they permitted to have sexual intercourse, or other privileges, or restrictions ? Are ceremonial visits made between the groups of the bride and groom ? If so, inquiries should be made as to the nature of these groups (*e.g.*, clansmen, age-fellows, certain relatives), and an account should be obtained of the ceremonies, and of any payments or exchange of gifts.

Elopement.—Elopement may be the recognized form of marriage, or may be resorted to in special circumstances. Even where marriage by elopement is recognized are other forms practised, and, if so, is elopement considered equally honourable ?

Sporadic Elopement.—Where the necessary consent to a marriage is withheld by the authorities, or where the man is unable to pay the bride-price, the couple may elope. If so, are any efforts made to overtake them, and by whom ? If they evade capture for a certain length of time are they allowed to return to the village, and recognized as husband and wife ? Are any gifts or payments made to the group of the woman, and where bride-price is customary are such payments equal in value to the whole, or a certain fixed proportion, of the bride-price ? What is the status of the children of a couple who have eloped ?

Elopement of a man with a married woman, v. Adultery, p. 104.

Marriage by Exchange.—Two men may exchange sisters as wives, or daughters as wives, for themselves, their sons, or brothers. Where such arrangements are customary, inquiries should be made as to whether any bride-price or exchange of presents is made. If this type of marriage exists as well as some other type, inquiries should be made as to whether the ceremonial of both types is the same.

Women given in lieu of blood-money.—Where it is customary to give women in lieu of blood-money inquiries should be made as to how such women are chosen. Are they usually

relatives of the murderers? What is their status in the group which has accepted them? Are their children considered as heirs to the murdered man? Are they allowed to return to their own people after they have borne children?

Women taken under hostile conditions.

During war are women taken captive or are they killed? If they are taken captive do they belong to their captors or to the chief? Are they ever taken as wives, and, if so, what is the status of their children? Are the laws of totem exogamy, where these exist, observed in marriage with women captured in war? (*v.* TOTEMISM, p. 76, *cf.* p. 95). Are such women allowed to carry on their own religious cults?

Marriage may be customary between members of two groups more or less hostile to each other, either actually or by tradition. Wherever such a custom is found, all details of the procedure should be recorded.

Among other peoples, where tribes meet for certain ceremonies, it may be recognized that the visiting tribe has a right on the last night of the ceremony to capture and take away with them women belonging to their hosts, *e.g.*, the tribes about Maryborough, Eastern Australia. Such customs should be noted, and special inquiry made whether the women so captured may be already married, and whether the laws of totem exogamy have to be observed.

MARRIAGE WITH DOWRY OR BRIDE-PRICE

Dowry.—The use of this term should be restricted to the gifts or payments made by the father or group of the bride to the bridegroom or to the bride herself. The ceremonial exchange of presents or payments of approximately equal value between the two groups must not be confused with either the bride-price or dowry.

Bride-Price.—The payment of a bride-price is often erroneously believed to imply that the woman is purchased from her parents and becomes the property of her husband. This is not strictly true in any known instance. The term has, however, become too common to be discarded, but it would be preferable if the investigator always employed the *native*

term in describing or referring to payments or gifts made by the groom or his group to the father or group of the bride. The bride-price acts as a guarantee of the stability of marriage; it may also be regarded as compensation to the group for the loss of a member.

The Nature of the Bride-Price.—This may consist of : (a) live stock ; (b) objects of daily use, *e.g.*, hoes, fish spears, pots, weapons of war, etc. ; (c) ornaments and objects for ceremonial use ; (d) recognized currency ; (e) gifts of food or service ; service may take the form of numerous gifts of food and household necessities, or in its more complete forms, the suitor may live in and devote himself to the bride's household. Other members of the bridegroom's group besides the bridegroom may be obliged to render service, and this work may be done not only for the bride's parents but also for her relatives. The duration of the period of service should be ascertained. Does it terminate with marriage, or continue for a more or less defined time after it, as till the birth of the first child ? Do all children have to be paid for ?

The Amount of the Bride-Price.—Who settles this ? Is there a fixed amount, or does it vary with the status and personal condition of the bride ? If owing to economic pressure the bride-price cannot be paid what will be done ? Will payment be deferred and the debt inherited, or, if not, what is the status of the children ?

By whom is the bride-price paid ? Though usually presented by the bridegroom, his father, or his mother's brother (according to the mode of descent) it is often collected from other relatives. Where this is so, ascertain exactly who these people are and for what reason they contribute ; *e.g.*, relationship, mutual obligations, common membership of a social group.

To whom is the bride-price paid ? Though usually handed over to the bride's father or mother's brother (according to the mode of descent) it frequently has to be distributed by the recipient. Ascertain to whom it is then distributed, and for what reason.

Time of Payment.—Is the bride-price paid in whole before cohabitation takes place ? If not, should any definite amount

or proportion be paid ? Is it paid all at once or in instalments ? If the latter, are there definite times for payments ? Sometimes further payments are made on the birth of each child. For further notes on bride-price, *v.* DIVORCE AND STATUS *below*.

DIVORCE

Divorce should be regarded as a legalized cessation of marriage which regulates the status of the parties concerned and their offspring.

It should not be assumed that divorce implies a previous infringement of law or custom, and therefore necessarily presupposes guilt. This idea of guilt, however, is not absent from all peoples, and note should be made of any indications of such an idea, *e.g.*, if the wife returns to her people, and the bride-price is not returned nor any compensation made to the husband, this may indicate guilt on the part of the husband. Are there any specific reasons for the disruption of the marriage and do these causes operate equally for husband and wife ? How is divorce regulated where there is no bride-price or dowry ? Where there is a bride-price what arrangements are made on divorce ? Is it returned in whole or in part ? Are other valuables which may have been given by either party returned ? What arrangements are made for the maintenance of the children of a divorced couple, and to which group do they ultimately belong ? Is divorce allowed when a woman is pregnant ? If so, what arrangements are made for her and her child ?

Does divorce change the attitude adopted by a man or woman to the family of his or her previous spouse ? *i.e.*, respect, avoidance, etc.

Adultery.—How is this regarded, (1) on the part of a wife ; (2) on the part of a husband ? Is it a punishable offence ? If so, are both parties punished ? How and by whom is the punishment inflicted ? Does the punishment vary according as the adulterer is caught in the act or subsequently discovered ? Is it considered ground for a divorce, or is it usually condoned ? Is it actually a common practice or a rare occurrence ? Should a married woman elope with a lover what

action is taken by the husband, and what is the status of any children that may be born while she is living with her lover ?

RITUAL UNION AND RITUAL CONTINENCE

(1) Of Married Couples. Conjugal relations do not always begin on the first day of recognized marriage. Where this is the case inquiries should be made as to the length of the period of continence, whether any means are taken to prevent consummation of marriage, *e.g.*, the presence of a third person in the room at night, and whether any reasons are given for the delay. During the period of ritual continence do any other specially appointed persons have access to the bride ? The sexual behaviour of married couples may at certain times be regulated, and such ceremonial behaviour may be regarded as having an influence on the family or on the whole community. It would be difficult to draw a hard and fast line between the two modes of behaviour ; thus continence may be enjoined during pregnancy, lactation, during illness, or before starting on a journey, and the infringement of such rules would affect the family only ; but continence during mourning, before sowing or reaping, starting on a hunting or hostile expedition, or building a new village, may be imposed on the whole community. Periods of continence are often ended by a ritual act of copulation ; such acts may be of importance to the family only, or to the whole community.

Make as full inquiries as possible concerning ritual sexual behaviour, noting time and place, also the result of infringement of such rules. Are medicine men, magicians, rain-makers, sacred chiefs, or smiths, subject to special rules ?

(2) Of Unmarried Persons. Do adults of either sex remain continent temporarily or permanently for magical or religious reasons ? Incestuous unions may be performed ritually, either at the injunction of the community or for personal ends.

(3) Among some people, on special occasions, extra-marital sexual intercourse is not only allowed but actually enjoined ; it should be ascertained whether these occasions are seasonal festivities connected with the fertility of the land or cattle, or social occasions such as initiation, marriage, or funeral

feasts, or connected with some special cult, or to avert calamity. Do married as well as unmarried persons take part in these ceremonies?

Prostitution.—If it exists the social status of the prostitute should be ascertained. Is she independent, attached to some religious cult, or supported by the state? (v. also *Marriage to Gods*, below).

Marriage with the dead.—If a person dies unmarried it is sometimes believed to affect his life in the after-world. Hence a marriage ceremony is performed with a person standing in the correct relationship where marriages are enjoined, e.g., among the Todas. Among the Dinka a man must take a wife for any elder brother who has died unmarried before he may take one for himself; the children of such women are counted to the dead man. Marriages with the dead seem to be intimately connected with ideas concerning ancestor cult, and the life in an after-world, and with property. The duties of such wives and their children should be noted (v. *Secondary Marriages*, p. 98).

Marriage to Inanimate Objects.—In India a person may perform a marriage ceremony with an inanimate object, e.g., tree, dagger, pitcher. This is usually in order to obtain the status of a married person, when for certain reasons, e.g., bad omens, a human mate is unavailable. This may be preparatory to normal marriage. For *Tree marriage*, v. MARRIAGE CEREMONIES, p. 108.

Marriage to Gods.—Are any persons looked upon as the spouse of a deity? On entering the cult do they undergo any ceremony similar to that of marriage? Are such persons expected to remain chaste, or do they have intercourse with a representative of the deity, or become temple prostitutes? Are such persons allowed to have children, and, if so, what is their status?

Symbols of Coitus.—Are any actions performed by a man or woman regarded as equivalent to coitus? e.g., jumping over the legs of a woman. Are such symbolic acts believed to be able to cause conception? Is the performance of such an act between a man and a woman, not his wife, considered to be

equivalent to adultery? Where ritual union is practised (*v. above*), can it take this form? Are there any actions which are legally regarded as indicating that there have been sexual relations between a man and woman, and for which compensation can be demanded, *e.g.*, sitting upon her mat or bed, loosening or touching her belt? Is the act of eating together by a man and woman regarded in this light?

MARRIAGE CEREMONIES

Ceremonies mark the difference between a legal marriage and an irregular union. They may be very simple or may last for a long period. It is often difficult to distinguish between ceremonies of betrothal and marriage, since the former often appear to be but a preliminary stage of the latter.

The consummation of marriage may take place at a definite time in the ceremony, or it may have been performed previously (*v. Defloration*, p. 100), or be deferred (*v. RITUAL CONTINENCE*, p. 105). There is usually some action, or group of actions, performed by bride or groom or both which finally establish the marriage. Sometimes this does not take place until after the birth of the first child. Such actions may symbolize the uniting of two people or two groups, *e.g.*, by eating together, being tied together, exchange of blood, the bride sitting on her husband's knee, etc.

Seasons for Marriage.—Do marriages tend to take place at any particular time or year, or are certain months or seasons considered favourable or unpropitious? If so, can such practices be correlated with seasonal occupations and the food supply, or are magico-religious reasons given? Are omens taken to fix the day for marriage ceremonies?

Marriage rites have been classed under many headings: *rites de passage*, protective rites against the danger of sexual contact, purification rites, rites to ensure fertility, and survivals of ancient customs. It is not necessary to subscribe to any of these theories, but all ceremonies, whether formal payments of the bride-price, exchange of gifts, dramatizations, assumption of special garments or ornaments, should be described in detail, giving full value to the social and emotional significance

and, whenever possible, the native interpretation. It should be noted whether any part of the ceremonial is considered to be necessary in order to ensure legitimacy of the offspring. Where does the ceremony take place, at the home of the bride, or the husband, or at some sacred spot or shrine?

Tree Marriage.—In North-East India a ceremony, resembling a marriage ceremony, *e.g.*, smearing with red lead, is sometimes performed by the bride and groom with a tree as part of the regular marriage ritual. Where such a ceremony is found it should be described and a note made of the following: (a) whether both bride and groom are so united to trees; (b) what species of tree is used and whether it is the same for the man and the woman, and whether these species are in any way connected with the dead?

THE STATUS OF WOMEN

The status of women should be considered, (1) on the sex basis, (2) on the social basis.

(1) In this connection any actions which express sex antagonism should be noted. The common feeling that each sex is to some extent dangerous to the other may be intensified by magic. Are women on account of sex debarred from religious or social functions? Are they allowed to enter shrines or other holy places? Are certain foods forbidden them? Are they subject to special taboos during menstruation, or at any other period? Is there any work which is regularly forbidden them, *e.g.*, tending cattle? Are women debarred from chieftainship, or can they hold this or any other office (*v.* CHIEFTAINSHIP AND KINGSHIP, p. 143)? Do women eat apart from men? Are there any women's clubs or societies? Are women on account of sex specially adept in magic, either good or evil? Are there any special women's cults, or cults of which women are priestesses? For *Sex Patrons v.* TOTEMISM, p. 79.

(2) For the social status of women in the household, (*v.* FAMILY, p. 64). The fact that *widows* may be inherited, *i.e.*, taken to wife by the next of kin, does not indicate a low social status of women generally, any more than does the payment

of a bride-price, though both these factors may contribute to it, especially when the bride-price is paid in money. Both conditions may occur where women are themselves able to hold and inherit property, to exercise power and hold office. It would appear that in the ruder cultures an independent status of women as widows, except in the case of elderly women past the time of childbearing, is seldom recognized. The latter may be looked after by their sons, or attain social prominence as guardians of shrines, but young widows must either remain "*wives to the dead*" or regain a new status by a new marriage. As wives to the dead husband they may continue to bear children to his name under the guardianship of the heir, or reach their logical end in death, *e.g.*, the Hindu *Suttee*. If the widow is not taken by the next of kin, what is her status? Is she free to marry or not as she likes, and if she does not marry can she take lovers? Does she return to her own group, or who is responsible for her maintenance, especially if she is old and has no property of her own?

SEXUAL ANOMALIES

Abnormalities.—Are abnormalities, such as physical (*e.g.* albinism), or mental (*e.g.*, insanity), a bar to marriage or a reason for dissolving it?

Impotence.—Does impotence occur, or is it commonly feared? What is believed to be the cause of it, and what means are taken as remedies?

Sterility in Women.—Does sterility occur? To what is it attributed, and what measures are taken to prevent or cure it? Are barren women despised or reproached? Is barrenness a ground for divorce?

Frigidity in Women.—Does this occur? What is believed to be the cause of it, and are any means resorted to as remedies?

Homosexuality.—Some forms of childish or adolescent homosexuality may be regarded as normal. If adult homosexuality occurs among either sex find out how it is regarded, both by the sex concerned and the other sex. Is it condemned, tolerated, or countenanced? Does homosexuality

crop up sporadically or is it regularly organized? Do recognized homosexuals wear the dress and adopt the occupation of the opposite sex? Is its practice connected with shamanism, magic, or any religious cult?

Bestiality.—Does this occur? If so, how is it regarded? Is it connected with magic?

Castration.—Is this operation ever performed? If so, is it confined to any special group of people, such as slaves, or is it performed as a punishment? Has it any magico-religious significance? Have *eunuchs* any special duties? Can they acquire social eminence?

Unmarried Persons.—Among primitive peoples it is rare for anyone to remain unmarried for very long after puberty (*v.* RITUAL UNION AND RITUAL CONTINENCE, p. 105). Are there any unmarried persons in the tribe? If so, what reasons do they give for being unmarried: religious motives; inability to procure a spouse; abnormality, p. 109? Or is there any political reason? (*e.g.*, the daughters of the Shilluk king may not marry). Must unmarried persons remain chaste? How are such people regarded by other members of the community, and does their single state in this life affect their fate in the next world?

DEATH AND THE DISPOSAL OF THE DEAD

BELIEFS CONCERNING DEATH AND THE DEAD

Beliefs concerning the causes of death vary greatly among different peoples. Natural causes alone are often not considered to be sufficient explanation, though they are seldom entirely disregarded. Death is frequently attributed to—

(a) The malice of spirits, ghosts, or magicians. These may use purely supernatural means, *e.g.*, stealing a man's soul, but deaths which seem to us accidental, as being slain by a wild beast, may be believed to be due to some person or spirit who has instructed an otherwise harmless animal to kill.

(b) Sins, acts of commission or omission (*v.* LAW AND JUSTICE, p. 153), either of the person who has died or of someone connected with him. The punishment of death may be

automatic (the outcome of some impersonal spiritual force) or it may be inflicted by the spirit or spiritual beings against whom the person sinned; these may use natural or supernatural means (*v. above*).

(c) Physical injuries or a physical condition, *e.g.*, old age, unconnected with any supernatural agency.

Ascertain as far as possible what is the native conception of death. Does the native word for death correspond to our own, or does it include also physical conditions, such as severe injury or disease, which are believed to lead up to, or be in some way connected with the death of the body? Are people while still alive ever treated as though dead, *e.g.*, spoken of as dead and actually buried alive? Are trance conditions confused with death?

Among many peoples there is a tradition that mankind was originally immortal, and that the foolish or malicious action of some creature or individual brought death into the world. Any such legends should be recorded.

Beliefs concerning the Dead.—There appears to be a universal belief that some part of man survives the death of the body. This part is best called the *spirit*, which word includes the concepts of both ghost and soul. Accurate accounts of the beliefs concerning the spirit are always hard to get and many contradictory ones may be held at the same time. Many people believe that man has several souls and that at death these have different fates. Thus one may go to the Other World, one enter into a descendant of the deceased, and one reside in his shrine. There is sometimes, too, a belief in an impersonal spiritual essence attached to every man which has been termed *Soul Stuff* *v. RELIGION AND MAGIC*, p. 182. Even where there are multiple souls there may yet, it seems, be some single entity which embodies especially the personality of the deceased. When the spirit is likened to the shadow or reflection, it should be discovered whether it is believed to dwell in these, or whether the words are used as similes. The spirit may reside in different parts of the body, *e.g.*, the head, liver, heart. If this is so, it should be noted whether these parts are held to be peculiarly sacred, and

whether they are ever eaten to obtain control over the spirit.

The attitude of the living towards the dead is usually ambivalent. Spirits may be both loved and feared at once. (*v. RELIGION, Cult of the Dead*, p. 184.) Those who have died recently are often feared more than those long dead. It is important to discover whether it is the spirit of the deceased that is feared, or the corpse, and such supernatural creatures as may gather round it.

The Fate of the Spirit.—The correct performance of funeral rites is always necessary for the peace of the spirit, but its fate may also depend upon the circumstances of the deceased; *e.g.*, sex or social status, conduct during life (military achievements, the performance of certain ceremonies, etc.), manner of death (by violence or by witchcraft, etc.). Where an Other World is believed in there may be different realms for different classes of spirits; *e.g.*, sky-world for chiefs and under-world for commoners, or their treatment in the same world may vary. Where there is a belief in reincarnation the above circumstances may determine the person or species of animal into which the spirit is re-born. Sometimes some are reincarnated and others go to a land of the dead.

The Other World.—Though some peoples believe that all spirits of the dead wander about on earth, it is more commonly held that they dwell in an Other World. Residence there may precede reincarnation (*q.v.*) or may last until the spirit is believed to have died finally. This may happen a definite number of years after the death of the body, or only when the deceased is forgotten or has no descendants left. The land of the dead is usually regarded as being similar to that of the living in manner of life, social organization, etc., though the conditions are seldom identical. Sometimes there is a series of worlds through which the spirit must pass before its final extinction.

Where an Other World is believed in discover its location, whether on the earth, below the ground, below the sea, in the sky or in some place either real or mythical? Does it lie in any special direction, and are there any traditions concerning the route thither, or the adventures of the spirit on its way?

Are any spirits, unable to reach it and for what reasons? Are there any tests which must be fulfilled before the spirit can reach the other world? Can the living visit it, and do the dead revisit this world either at will or periodically?

Reincarnation may be into men or animals and may take place immediately after death or be postponed until the spirit has found a body suitable for it. If reincarnation is into an animal, is the species chosen connected with totemic beliefs, p. 76, if into men is there a supposed physical or psychological resemblance to the deceased, or has there been a friendship in life, etc.? Where the spirit is reincarnated into another individual must the person be of the same sex, clan, kindred, etc., as the deceased? How is a reincarnating spirit recognized; by physical resemblance or mannerisms, or by some indication given during naming ceremonies, etc.? Is the person thus identified treated in any way as though he were the deceased? Usually a dead person can only be reincarnated into a new-born infant, but there is evidence that among some peoples the spirit can pass into an adult. Where any such belief is found it should be ascertained whether this is true reincarnation or only a case of "possession" (v. RELIGION, p. 183); whether all are thus reincarnated or only famous people; and what is the fate of the spirit whose body is thus appropriated by the deceased?

TREATMENT OF THE DYING AND DEAD

In recording all activities, whether clearly ceremonial or not, lists should be made of all the people who take part, and of their individual functions; their relationship, real, classificatory, or social, to the deceased should be ascertained by means of the GENEALOGICAL METHOD, p. 44.

Considerable variations in the treatment of the dying and dead and the ceremonies connected with death, may exist among one tribe and even in one village. Where this is so, it should be noted whether the methods employed vary according to the age sex, social status, wealth, military or other prestige, or manner of death of the deceased, and whether they affect the fate of the spirit after death. Should such conditions

be considered to be due to a culture contact, historical or traditional evidence for this should be sought. Whenever a death is recorded the age, sex, status and, where there is clearly a mixed population, physical type of the deceased should be noted.

Treatment before the Disposal of the Body.—What signs are taken to indicate that the patient will not recover? Is the sick person allowed to die in the house, or removed outside the house or village, or to any definite place inside or outside the village? Is the sick person tended, abandoned or buried alive? It is often found that chiefs, rain-makers, sacred kings, etc., are not allowed to die a natural death, but are either killed ceremonially or buried alive. Where such practices are found the native explanation of them should, if possible, be obtained (*v. CHIEFTAINSHIP AND KINGSHIP*, p. 143).

Preparation and Disposal of the Body.—Considerable confusion has arisen from the inaccurate use of technical terms. The following definitions are suggested.

Inhumation or Interment is the practice of concealing the body in the ground or in a mound above the ground. The word *burial* should be used for this method of disposal only.

Cremation is the practice of destroying the body by fire.

Exposure is the practice of laying the body on some exposed spot to be destroyed by the elements or by wild animals.

Preservation is the practice of preserving the body. This may be done by means of desiccation, fumigation, or the use of preservatives. The term *mummification* has been used as synonymous with preservation, but is best reserved for the embalming technique of Ancient Egypt, or processes resembling it.

Artificial Decomposition is the practice of using special means to hasten the decomposition of the body.

Sometimes two or more of these methods may be employed in disposing of one corpse, *e.g.*, inhumation followed by cremation. Where this is so the order of precedence and the length of the interval between the different methods should be recorded.

Amongst the majority of peoples a definite length of time

is allowed to elapse between death and the disposal of the corpse. How long is this? Are there any definite days, or times, or seasons, when the disposal of the dead in the customary manner is prohibited or enjoined?

Burial.—Is there a burial place? If so, is it for the use of the whole village, of one clan or joint family, etc.? Who digs the grave; people allied to the deceased by ties of blood, marriage or common membership of any social group; people of a certain sex, age or social standing? If there is no burial place, where is the grave dug; *e.g.*, inside the house, in front of or behind the house, inside or outside the village? Is it lined in any way, and are any measures taken to prevent the earth from touching the corpse, *e.g.*, the use of a coffin, mats, skins, etc.? What is the position of the body in the grave; is it extended, contracted, fixed in a sitting or standing position? If extended or contracted, is it laid on the front, back, or right or left side? The *orientation* of the body should be clearly indicated. The statement, “the body is orientated north and south” is valueless; it should be recorded whether the head is pointing north or south, and which way the face is looking. If the body is so placed that the head is pointing, or the face looking, in any special direction, is this direction determined by some point of the compass, some feature of the landscape, *e.g.*, a mountain, the sea, etc., or does it refer to the real or traditional place of origin of the people?

Cremation.—Where does this take place? Is any special timber used for the pyre and is it arranged in any special way? Does this vary with the age, sex, social status, etc., of the deceased? Is the body placed on the pyre in any special position or with any definite orientation? Is the fire for the pyre specially made and, if so, by whom and by what method? (*v. FIRE*, p. 209.) What is done with the ashes and burnt bones? Are they collected; if so, in what and where are they kept? Is a place reserved for members of a certain clan or other social group, or are they kept by a certain member or members of the deceased's kindred or clan?

Exposure.—On what is the body exposed: a platform built for the purpose or one used in daily life; a tree; a ledge of

rock, etc. ? Is there any special place in the village or bush where bodies are exposed ? If trees are used, is any species singled out for this purpose ? Is a coffin or body-wrapping used ? Is the body orientated ? For how long is the body left exposed ? Is it visited or avoided by the living and for what reasons ? What is done with the bones when decomposition is complete ? (*v. Cremation, above*).

Preservation.—It is sometimes difficult to decide whether *exposure* under certain conditions should not be included under this heading, *e.g.*, in a hot dry climate where exposure results in desiccation. The processes used to preserve the body should be carefully noted. Where vegetable matter is used, *e.g.*, the bark of a tree, the species of the plant should be ascertained and, where possible, a specimen of the part used collected. Are the bodies preserved temporarily in order that they may lie in state or await the season for the disposal of the dead, or is the preservation intended to be permanent ? For how long does the method employed preserve the body ? Where is the body kept during and after the process : in a hut specially built for it ; in the hut of a relative or in a place for the bodies of all the deceased's social group ?

Artificial Decomposition.—This may be brought about in many ways. The flesh may be scraped or washed off the skeleton ; decomposition may be hastened by heat ; the body may be put in a termites' nest to be eaten. Note should be made of the place where the body is kept if either of the first two methods is employed. What is done with the bones ? (*v. Cremation, above*).

Water Burial.—This is of two kinds. The more common is for the corpse to be taken out to sea and sunk, or laid on the shore or reef to be taken off by the sharks. It should be noted whether any measures are taken to prevent the body from being washed ashore or devoured by the fishes. Is it fixed in any special position ? Are certain parts of the sea or river shore reserved for water cemeteries ? Less common is the practice of placing the deceased in a canoe and sending it out to sea or down stream.

Encasing the Body.—Sometimes corpses are placed in jars (*e.g.*, Borneo), coffins or hollow effigies (*e.g.*, Solomon Isles), which are not buried but usually sealed. When this is done where are such receptacles kept?

Exhumation and Secondary Disposal.—Where inhumation is practised the bones are sometimes exhumed after a time and placed elsewhere. This may be part of the regular mode of disposal, or due to the necessity of awaiting the correct funeral season, or to the restlessness of the spirit, etc. When it is part of the normal rites the following points should be noted. How long is the interval between the first disposal and the exhumation? Is this fixed by custom or do the spirits of the dead intimate to their descendants by means of dreams or in other ways, such as causing illness or misfortune, that exhumation should take place? Is it done at any definite season for all those who have died within a certain period, or is there a separate rite for each body? Where are the exhumed bones placed: in the bush (re-buried or thrown away), thrown into water or placed in an ossuary? Are the places so used reserved for members of any special social group? Is this secondary disposal final? Are any of the bones kept by members of the deceased's clan, kindred, etc., and, if so, what bones are so kept and where? Are exhumed bones treated in any way, *e.g.*, painted, and are they used for any religious, magical or other purposes? When the bones are exhumed what is done with any grave-goods which have not perished? After cremation, exposure, etc., the remains may be removed from one place to another. Where this is done, inquiries similar to those indicated above should be made.

GRAVE-GOODS

Where the body is buried are any objects placed in or on the grave, and, if so, what are they? Do they differ according to the sex, social status, etc., of the deceased? Are they objects which belonged to the deceased in life or which were given to him at death? If the latter, who were the donors and for what reason did they make these gifts; *e.g.*, relationship by blood or marriage, membership of a certain

social group, etc. ? When the objects are valuable are they buried with the body or are measures taken to preserve them for the living, *e.g.*, by burying cheap imitations or symbols of them, or by laying them on the grave and removing them later ? Are special objects other than cheap imitations made for funerary purposes ? Are the objects buried or placed on the grave so that the deceased may use them in the Other World, or merely to honour him ? If the former, are they treated in any way, *e.g.*, broken to release the spiritual part of them ? Is food or drink placed near or in the grave and is it renewed from time to time ? If so, for how long is this done ; has it any relation to the time taken for the body to decompose or for the spirit to reach the Other World ? Similar information concerning grave-goods should be obtained in connection with other ways of disposing of the body.

Treatment of Property (*v.* also INHERITANCE, p. 162).—Is any property, other than the grave-goods, destroyed ? (*v.* also *Sacrifices*, p. 119). If so, what is the alleged reason for the destruction : that the property may be of use to the deceased in the Other World, to honour the dead, or because its connection with death is believed to render it dangerous to the living ?

BURIAL PLACES, OSSUARIES, MOURNING, ETC.

The structure, orientation and general arrangement of burial places, ossuaries, etc., should be noted. Are they regularly maintained and repaired, and by whom ? Is more than one body allowed to lie in one grave ? Are graves ever reopened, and, if so, is this done for anyone standing in any special relation to the person already buried there ? Are burial places, etc., feared and avoided, or are they visited freely ? What ceremonies are performed at them, and are any of these not directly connected with the cult of the dead ? (*cf.* SHRINES AND MEMORIALS, p. 120). These usually begin before death and may be performed at intervals for a long period after the final disposal of the body. They should all be described in detail. The time when, and the place where, they are performed are important, and a list of the people taking

part should be made. How are the ceremonies or individual ceremonial actions explained, *e.g.*, are they to help the dead or to protect the living? Any explanation will very probably be a rationalization of a custom whose original purpose is forgotten or is at least unrecognized, but it should nevertheless be recorded.

Ceremonies preceding Disposal.—When a person is dead or believed to be dying how do the other members of the community behave? Is the dying or dead person placed in any special position or on any special structure, *e.g.*, a bier? Is the body washed, dressed, or decorated in any special way? Are there any ceremonies of taking leave of or presenting gifts to the dead? If a person dies away from home and it is not possible to recover the body, are there any rites of calling home the spirit, and are any funeral ceremonies performed over any kind of effigy of the deceased?

Funeral Feasts.—There may only be one of these, or a number held at regular intervals, and having different meanings, *e.g.*, to mark the end of the period of mourning, commemorative, etc. Who provides and who partakes of the feasts? Where are they held? Are special foods eaten? Is any of the food part of the sacrificial offerings to the dead? (*v. Sacrifices, below.*)

Are any ceremonies performed to help the spirit on its way to the Other World; to drive it out of the village, or to enable it to return thither? Among some peoples an annual ceremony is held for all those who have died within the year. Where this is so, at what season does it take place; does it involve the representation of the dead by the living; has it any connection with the final departure of the spirit for the Other World? It has often been found that certain ceremonies indicate an intimate connection between death and fertility, thus rites of marriage and agriculture may be connected with funerary rites. Any practices which suggest such a link should be carefully recorded.

Sacrifices.—These may involve the destruction of goods, domestic animals and even human beings. Their purpose may be to honour the dead, to provide him with goods and com-

panions in the Other World (*cf.* GRAVE-GOODS, p. 117) or, where part of the sacrifice is consumed by the living, it may be in the nature of a communal meal (*cf.* *Funeral Feasts* p. 119). Even the mutilations inflicted on mourners may be regarded as sacrifices. The following points should be noted: what objects are sacrificed and who provides them; if an animal is sacrificed how is it killed; what is the native interpretation of, and attitude towards, these sacrifices? Is special importance attached to the blood of sacrifices or of the mourners; is it treated in any ceremonial way and what is the reason for this; *e.g.*, to strengthen the soul of the deceased, or to propitiate a spirit or deity?

Human Sacrifices.—(a) If a man leaves one or more widows, are any or all of these killed? If so, what is the alleged reason for this, and how is their death brought about? p. 109.

(b) Is it thought necessary to kill one or more slaves or strangers in order to complete the funeral rites? If so, how are they killed, what is done with their bodies, and what is the alleged reason for killing them? Is a live person ever buried with the dead? Are such sacrifices necessary for all people, or for men only, or for those of a certain group or status?

Mourning.—Are there any customary signs of mourning? Do these vary according to the relationship of the mourners to the deceased? In what do these signs consist: mutilations, adoption of special clothing or ornaments, prohibitions against washing, the eating of certain foods, etc.? Are there special prohibitions for those who have been in contact with the grave or corpse? How long do these prohibitions and signs of mourning last? Are they terminated by a special ceremony? Do all or any of the mourners live in a special place during the period of mourning or any part of it?

SHRINES, MEMORIALS, AND RESTING PLACES OF THE DEAD

A shrine which the spirit of the deceased may inhabit at will is often erected and, where the skull or other bones are preserved, these are usually placed within it. Sometimes each spirit has its shrine apart, or those of a certain social group

may be together. The shrine may be in the form of a small house, or some object containing a relic of the deceased, or it may be nothing more than the clan or village ossuary. Sometimes a cenotaph is set up at which offerings are made. All spirits may have shrines or they may be reserved for important people only, or for those spirits which, because they have helped the living, have shown themselves worthy of a cult. Erections to the dead, unconnected with any cult and therefore not truly shrines, are also found. They sometimes appear to be in the nature of memorials to the dead, or are erected to be temporary resting places for any wandering spirits, *v. RELIGION, Cult of the Dead*, p. 184.

Where shrines or memorials are erected the following points should be noted. Are they for all members of the community, for those of one sex or for adults only, or for those of a certain social group, status, etc. ? Is more than one ever erected for one person ? What form do they take and of what are they made ? Are they all alike, or do they vary according to the status of the person for whom they are erected ? When, where and by whom are they put up ? What is the accompanying ceremonial ? Are they orientated in any way ? Are any rites performed at them periodically, and are they ever used by the living for ceremonial or secular purposes other than those connected directly with the dead ; *e.g.*, ceremonies connected with the crops or council meetings ?

ABNORMAL DEATHS

Among many peoples death from certain causes is regarded as abnormal, *e.g.*, women dying in childbirth, persons killed by wild animals, by violence, or in war, etc. There seems to be some idea that such people are specially dangerous to the community, either because they are hostile to it, or because they have incurred the wrath of a spiritual being. Their funeral rites may be different from those of other people or they may receive no funeral rites at all. Their spirits are often earth-bound or relegated to a special Other World. Where any such beliefs concerning abnormal deaths are found all details should be collected.

Suicide.—For what reasons do people commit suicide? What is the usual way of doing this? What is the fate of the spirit of a suicide and how is his body disposed of? Are suicides common and how are they regarded by the community? What attitude is taken by the community in cases of attempted suicide? Statistics should be collected whenever possible and reports of actual cases which have come within the observer's knowledge will be valuable.

During epidemics the treatment of the dead may differ from that which is usual. This may be merely a matter of practical expediency, or because deaths under such circumstances are considered to be abnormal.

If a pregnant woman dies the foetus is sometimes removed and buried separately either in the same or in a different grave. Ascertain if this is so, and what is the alleged reason for the practice. If possible find out how old the foetus must be before it is thus treated as a separate body.

Treatment of the Enemy Dead.

When people are killed during fighting and the enemy obtain their bodies, the treatment allotted to them may depend upon the type of warfare in which the parties were engaged *v.* WARFARE, p. 162. Frequently the bodies are eaten, or the skulls, and sometimes the limb bones, are kept as trophies, or for magical purposes (*v.* *Head-Hunting*, p. 163, and *Cannibalism*, p. 215). Since the correct funeral rites are not performed the spirits of such people are usually unable to reach the Other World. They may be earth-bound or may become the servants of their captors. Similarly the treatment and fate of slaves, foreigners or those killed as sacrifices are usually different from those of ordinary people and should be inquired into.

ECONOMIC LIFE

The economic life of a people includes the sum total of those activities concerned with the production and consumption of wealth. These activities are in the first place concerned with obtaining food and raw material for clothing and shelter, and

its manufacture into the finished article, but even the most primitive peoples devote a not inconsiderable amount of time and labour to the production of articles of luxury—personal ornament, carving, objects of cult and ritual—and to other articles not for immediate consumption, implements, arrangements for storing, etc., which are forms of primitive capital. Even in the simplest cultures, such as those whose members depend on hunting, fishing, or the gathering of roots or berries for their subsistence, some form of co-operation is always to be found and therefore some form of organization to regulate these activities, and the relations of the various individuals to one another in this respect. This is economic organization and it is important to study it in detail though it is usually impossible to separate it entirely from the general social, political, and religious organization.

In fact in most lower cultures these various aspects are so intertwined, so closely related, that it is only by studying each in detail and bringing it into relation with the others that any one of them can be fully understood. Thus in certain parts of Melanesia the chief's power and prestige depends largely on his wealth; but he derives his wealth mainly, among these matrilineal people, from the contributions made by the brothers to each of his respective wives. Here, then, we can understand fully neither chieftainship nor polygyny without a thorough grasp of the economic organization of the people. Religion may also be intimately interwoven with the economic life of a people. Among the pastoral Todas, religion centres so largely round their herds that their dairies may be regarded as their temples, and they have developed a special temporary priestly class from their dairymen. Here again we see that a full understanding of the religious ideas and organization of this people is impossible without knowledge of the economic aspects of their life.

Innumerable examples of the interconnection of the various aspects of social life and organization might be adduced, but perhaps enough has been said to show the importance of a careful investigation of the economic activity of any people not only for its own sake, as being an important side of life,

but also in order better to understand all the other aspects of the people's life.

Economic Environment.—The relation of the community to its physical surroundings should be carefully studied. Describe the character of the country, its flora, fauna, minerals, etc., especially in relation to the *economic lore* of the people—their knowledge of the nature and qualities of these things, and the use which they make of them. Note technical terms associated with special crafts; note also the ritual connected with crafts (*e.g.*, ordinary terms may be avoided on special occasions and ritual expressions used).

How is the population distributed, and what is its mode of settlement? As every people draws its subsistence from land, the methods of tenure form an important corollary to economic life, *v.* TENURE OF LAND, p. 160.

What is the principal mode of obtaining subsistence? The simplest type of life depends upon food-gathering, hunting, or fishing, usually involving some nomadism. The more complex pastoral life necessitates nomadism, and should be studied in its economic aspect, and the methods of handling cattle, breeding, grazing, herding, milking, etc., should be investigated, also grazing and watering rights. A settled pastoral life involves at least a minimum of agriculture or horticulture, and the extent to which a community is pastoral or agricultural should be noted. A mainly agricultural life, as also a pastoral life, may yield some surplus of wealth or leisure, so that industries not directly concerned in food-production emerge. Towns and markets, as in West Africa, may occur for the exchange of manufactured objects, and sometimes of raw materials, where the mode of life has resulted in a surplus production over that necessary for bare subsistence and in some degree of specialization. Note any seasonal variations of industry and draw up a *calendar of work*, noting native divisions of the year and their relation to economic pursuits; are there lucky and unlucky days for work, are rest periods customary or enforced? Are there definite working times? Among hunting or fishing peoples note any seasonal differences in quarry, and how these affect

the mode of life. Are there seasonal occupations which necessitate long expeditions? If so, what are they:—collecting food or trade products in special localities, driving cattle to better pastures, or trading expeditions? Who takes part in these—individuals at will (male or female, young or old), families, or other organized groups? Note whether experts, or magicians are consulted or are actually in charge of special activities.

ECONOMICS OF THE SOCIAL GROUP

Every community has its own way of maintaining itself in the special geographical conditions of the region which it inhabits. The first essential of maintenance is a supply of food; and in many simple communities the actual food-quest, and operations immediately arising from it, such as the manufacture of hunting-weapons, the tending of flocks, or the preparation of land and instruments for agriculture, occupy by far the greater part of the peoples' time and energy, leaving little opportunity for the satisfaction of any other needs. Such communities may, therefore, be classified according as they get their food by *collecting* wild plants or their products; by *hunting* or *fishing*; by *agriculture*, which is the protection and renewal of domesticated plants; by *pastoral* care of domesticated animals; by *industry*, that is by furnishing in exchange for food or for means of obtaining it, superfluous produce, which may be either a particular food-stuff, or some means (more or less immediate) for producing food, for the satisfaction of other needs, such as clothing, weapons, or other goods; or by *commerce* or *trade*, which includes all the operations of transport and negotiation by which superfluous goods, whether produce or manufacture, are exchanged to the satisfaction of their respective producers; the trader in all cases retaining part of the goods or of their value as the means whereby to assure maintenance for himself.

The mode of subsistence is itself determined by the geographical conditions; and it may be uniform, or very complex. When people are able to supply all their ordinary needs by

their own efforts from the natural resources of their own region, there is usually no one occupation conspicuously predominant. But the lack of some necessity of life, coupled with abundance of some others may lead to more copious production of particular commodities for purposes of exchange. In extreme cases, a single industry seems to pre-occupy the whole population, either at certain seasons (as in some fishing communities) or perennially, as in mining or manufacturing districts. More commonly, each mode of subsistence is best achieved by a corresponding distribution of work among the members of the community, according to sex, age, and rank, with corresponding institutions to secure orderly performance by each, and due maintenance for all.

Conversely, the customary mode of subsistence of a particular people may determine its geographical range. Pastoral peoples, for example, though they often range widely, are limited in their movements by the distribution of pasture and water for their flocks; a desert, marsh, or forest, etc., offers an almost insuperable barrier. It may easily happen that a single "economic region," so to speak, may be shared by two or more distinct peoples, who, though they are obliged to conform in important matters to the mode of life which alone ensures subsistence there, yet observe many customs which are irrelevant to this mode of life, or even hinder the realization of it. For this reason, a people's mode of subsistence, important though it is, does not necessarily or completely account for all their peculiarities.

In all cases, the geographical features of the region should be described as fully and as accurately as possible, together with the natural limits of the region and the contrasts of physical feature, climate, and natural products (particularly vegetation) which are observed on passing beyond them. Reference should be made to all available maps and other geographical records, whether made by the people themselves, by their neighbours, or by travellers. An attempt should be made to estimate the actual numbers of a people, for comparison with the area which they inhabit *v.* DEMOGRAPHY, p. 60. Count whenever you can. The contingents of

fighting-men from each community gives some idea of their relative populousness ; and in some countries, where importance is attached to participation in public functions, a clue may be given by the numbers attending a religious festival, a marriage feast, or a burial. If such data are not to be had, note the number and distribution of towns, villages or other settlements. Note, if possible, the boundaries of each settlement or at least the names of all the settlements which adjoin it, and estimate the population of each. The estimates obtained in any settlement should be checked by the estimates of it which are made by its neighbours. It often happens that population is reckoned by houses, or by families, or other social groups. If so, the genealogical method, p. 44, if it can be applied even to a few such groups, offers a useful check on popular estimates of their average size.

More important than the absolute figures, which are rarely obtainable or accurate, and even than an estimate of the density of population, is the mode of its distribution upon the surface of the region ; whether uniformly scattered, or grouped in isolated homesteads, or concentrated in smaller or larger villages, or massed in towns and cities.

Nomadism.—According to their mode of subsistence, a people may either be *nomad*, moving freely over the whole area of a region, or *sedentary* occupying stationary homes and seldom quitting them except through accident or compulsion. An intermediate type is supplied by *seasonal nomadism*, when a people shifts its abode, and perhaps also its occupation, according to the season ; as from winter to summer pasture, or from winter hunting-grounds to summer seed-plots. Of such movements the extent should be given, and also the reason assigned by the people themselves, as well as any causes which may be observed ; is the movement continuous all the year round, or do people encamp at certain seasons ? If so, what is the character of each camping-country ?

Migration must be clearly distinguished from nomadism, for a nomad people may have a well-defined region beyond which it does not wander ; and, conversely, even a sedentary population may migrate. Migration usually results from a

disturbance of the relation between the population and the resources of a region. A people may be permanently proportionate in number to the available resources of its region, *i.e.*, to that part of the actual resources which that people is at the moment capable of utilizing; or it may outgrow those resources, or lose them by change of climate, or other natural accident, and in either event seek fresh ones by *emigration*; or it may become unable to deal with those resources as well as before, or as well as other peoples within reach, in which case *immigration* may occur. The peculiarities, and also the history, of all peoples who are thought or discovered to be immigrants or emigrants should be noted. Of immigrants, note also their relations with the native population of the region, and the degree and mode in which they are assimilated.

The notes which follow on the principal kind of food-quest and on the modes of subsistence arising therefrom, should be supplemented by those under the special headings dealing with the actual processes of obtaining and preparing food, *v.* FOOD, p. 211, and PROCURING OF FOOD, p. 218. What is in question here is the way in which the whole mode of life of the social group is adapted to facilitate each kind of food-quest.

COLLECTING, HUNTING, AND FISHING

Peoples who live by collecting and hunting usually have a very simple form of material culture, and their social organization may be simple, or, as among the Australians, it may be very complex. The investigator should record all he can discover about the people and trace how far the environment influences their mode of life and religious conceptions. It does not necessarily follow that all peoples in this condition of life have always been so. Their culture may be an arrested one, or on the other hand it may have degraded from a higher culture, and everything should be recorded that might throw light on these alternatives. Collectors and hunters must of necessity be wandering folk, but it seems probable that in every case they range over limited areas. It is desirable to map out such

areas and to discover what landmarks serve the natives to demarcate them.

Purely fishing communities are rare, and it is doubtful whether a solely fish diet could support a healthy existence, the Eskimo, it must be remembered, live mainly on marine and terrestrial mammals. The whole economy of a community that makes its livelihood by fishing should be studied and its relations with neighbouring communities. Most fishing communities are apt to be exclusive, and thus they may exhibit social and other features that differ from those of their neighbours.

For further details see *PROCURING OF FOOD*, p. 218, *INHERITANCE*, p. 162, *ECONOMIC LIFE*, p. 124.

AGRICULTURAL LIFE

There is a very great variation in the tillage of the soil among different peoples, and the consequent social and religious associations are equally varied. A small patch may be tilled by means of a digging-stick or a hoe, or large areas may be cultivated by means of a plough. Gardens for tubers and other roots and for edible plants are on a different footing from corn fields, and these vary according to the grain that is grown. Each of these diverse methods of cultivation has its own reaction on the community practising it, and it is to these social and religious aspects that the investigator is invited to pay careful attention. The following questions deal solely with the simpler and economic aspects of Agricultural Life.

The Cultivators.—Are both sexes employed in agriculture, or is it restricted to one sex? What part does each sex take in agricultural work? Are the cultivators the whole body of the people or a separate class? What is the status of the agricultural class?

The Land.—How are lands for cultivation selected defined, and distributed among the cultivators? Describe all landmarks. Do the same pieces of land continue in the occupation of the same cultivators, or are there periodical redistributions?

How long does it take before the soil of a cultivated patch is exhausted, and are any steps taken to renew the fertility? Describe the economic and social effects of discarding exhausted land and cultivating a virgin soil. Has any cultivator a right of property in the land itself, or in the seed, plants, or trees, or in the produce, or in any share in the produce? Or has the whole community, or some social group, or public authority (such as a chief) a superior right?

Labour.—Is any provision made for the performance of necessary tasks, such as preparing the land, sowing, harvesting? How are the proper times determined for beginning such operations (*v.* SEASONS and STAR-LORE, pp. 338, 340). Is there any authority for regulating the appropriate work for each season of the year? What provision is made for temporary help in busy seasons? Do labourers come from a distance, or from other communities? Who summons, maintains, directs and rewards them, and how?

Produce.—How are crops owned, stored, and distributed? Does the whole of the crop belong to the cultivators, or is any part payable to land-owners, or any other classes in the community? Is there any habitual surplus of produce? To whom does it belong, and what is done with it? Note all produce-merchants, and their methods and status. Is any precaution taken against scarcity or famine?

For other details see PLANT CULTIVATION, p. 219, RITUAL IN TECHNOLOGY, p. 187, RELIGION AND MAGIC, p. 174, INHERITANCE, p. 162, ECONOMIC LIFE, p. 122.

PASTORAL LIFE

There are two main types of Pastoral Life: (1) With herds that have to be kept more or less constantly on the move, and thus the herders have no fixed abode; and (2) with grazing grounds not far from the fixed habitation. The first type is essentially nomadic, and the people live almost entirely on the produce of their herds; the second type may be sedentary, or with slight shiftings of grazing land, and the people usually rely on other food than that provided by their herds. In both

cases the herds, more especially cattle, take a predominant part in the affection, thoughts, and social activities of the people, and thus frequently become invested with a more or less sacred significance, but this is most characteristic of the second type. All these aspects of the interrelation between the herds and the community require most careful study and minute description.

In the nomadic type, their mode of life largely determines the character of the habitations, which may vary according to season, the furniture, utensils, and various domestic matters, all of which should be described. Ascertain also the relative duties of men and women in regard to camping, moving, the tending of animals, and milking. Note the dietary of the people and to what extent does it consist of milk treated in various ways, p. 212; also on what occasions meat is eaten. Of the articles used among them, note which are home-made and which are obtained by purchase or barter, and from whom. How are the dead disposed of during the period of migration? Investigate their religious life and ascertain whether, besides the religious emblems they carry about with them, they have any sacred places or sanctuaries.

In the sedentary type there is usually a variable amount of associated agriculture, and it should be determined if this is practised by the herders themselves, or by another group of people. In the latter case a detailed account should be given of the position of these people with relation to the herders. Usually the herders form an aristocratic class, in which case observations should be made as to their attitude towards, and what they expect from, the lower agricultural, metal-working, hunting, or other communities with which they are in contact. Discover to what extent the religion of the herders affects that of other communities. Among certain peoples who keep domestic animals there is no inferior community and here it is their own women who do the tillage, but these are not allowed to have the charge or milking of the cattle.

For other details, see DOMESTICATION OF ANIMALS, p. 221, HABITATIONS, p. 205, INHERITANCE, p. 162, ECONOMIC LIFE, p. 122, *Livestock*, p. 136.

SOCIAL FRAMEWORK

There is a close relation between economic life and social structure. Study the economy of various social groups—family, class, tribe, village, etc. Note economic obligations between different relatives or among the various members of the community. Note the part taken in the work of the household by husband, wife, children. What is the rôle of the headman of the social group in economic affairs—is he a leader in work, a provider of capital, an initiator of undertakings?

What is the position of the worker as compared with other persons, *e.g.*, warrior? What is native opinion on this matter, and are there proverbs relating to it? Is there a hierarchy of crafts? Are there forms of work regarded as hobbies?

PRODUCTION AND DISTRIBUTION

Production.—Economic goods can be gained only by some kind of effort, *labour*. Individual effort is rarely sufficient even in the simplest societies to accomplish all tasks. Even in hunting some collective work is usual, and involves *organization of labour*. Note in the community different occupations, and the persons engaged in each.

Division of Labour.—To what extent is the division of labour based on sex, age, and rank? Note any specialization in crafts; restriction of occupations; hereditary crafts, and education in crafts. What is the age of beginning work, and is there any apprenticeship?

Co-ordination of Labour.—There are two main types of combination of labour:—

Simple combination as when a number of people unite in pulling a log.

Complex when different sets of workers combine as in building a house. How are individual contributions co-ordinated? Who is *leader*? Are skill, magic, hereditary right, or social authority criteria for this position? Inquire whether the working group occurs impromptu, or is of regular composition.

Are experts called in from outside the community, *e.g.*, people invited to come and weave, etc. ? In the specialization of labour in different crafts, note how the product of each is made available to other members of community (*v.* EXCHANGE, p. 138).

Stimuli to Work.—Much native work, especially of more arduous kinds, is helped by stimuli: physical, *e.g.*, drugs; psychological, *e.g.*, songs. Note the response to songs and the manner of performance, choruses by workmen or by non-participants, song leaders. Note correspondence of words, notes, or pauses with movements in work, or other synchronization. Note the effect of jokes, companionship, etc. Are there social gatherings for the sake of doing a special piece of work ?

Motives in Work.—A problem of importance is to understand native economic psychology. Even in simple societies man does not work solely to satisfy primary needs—there are other objects of work besides the securing of food, clothing, and shelter.

Consider the *chief interests* of the native in work and the accumulation of wealth; the acquisition of wealth for utilitarian satisfaction; for social purposes—display, feasting, destruction; the acquisition of objects of non-utilitarian interest—ornaments, things of religious or ceremonial importance, heirlooms.

The main incentive in work may be to obtain goods; to acquire wives, fame, or rank, to enter secret societies, or to stand well in the eyes of the community. Note any special efforts made with such ideas in view, and any correlation of achievement in work with social prestige. Are there any titles of fame to be gained through work ? Does skill or industry in economic affairs help to gain a wife, or special privileges ? Note public opinion of laziness, and proverbs connected with this.

Economic Magic.—Generally ceremonies of a magical kind are performed in conjunction with work. Also various taboos are observed. Study the object of magic, the relation of words or rites to materials or processes used in work. Can,

in native opinion, any tasks be performed without magic ritual; if so, why? Who performs magic? If an expert, what is his position in the community? Does the "priest" or "magician" take the lead in technical parts of the work? Do the rest take their orders from him? Observe his position in relation to other experts, chiefs, etc. Is work regulated by ritual or magic in regard to time and sequence of operations?

Distribution.—Production of economic goods implies subsequent distribution. This term in its economic sense does not mean transfer from actual maker to consumer, but division of fruits of industry among those who participated in production. In more highly developed societies it takes the form of wages, interest, etc. The system is usually radically different amongst primitive peoples. Shares in the product are apportioned by different mechanisms, and on different principles. If it is an actual apportionment of goods produced, such as the division of a catch of fish, note the method adopted. Does one person act as distributor? How is he appointed? Is he leader in the work, or a chief, etc.? What shares are given to different workers, to the leader, to absent members of the working party? How do families of workers fare? When the product is indivisible (a house or canoe), how are the workers rewarded? Do they receive food as part payment? Note the part played in the process of distribution by feasts, gifts to individual workers, etc. Draw up a list of people engaged in any special piece of work and state how each is rewarded. Note the method of remunerating specialists by any one for whom they work. Is there any exchange of work for work?

OWNERSHIP AND CONSUMPTION OF WEALTH

Capital, or stock of wealth used to assist productive effort. Make a list of the most important capital goods in the community, *e.g.*, houses, bridges, roads, boats, cattle, slaves. Who takes the initiative in work? By what immediate reward are people induced to undertake work? How do they keep themselves while engaged? Is food supplied by other

members of the family or by the chief? Who provides tools and raw material? What part is played by men of recognized wealth in the community in forwarding large communal enterprises?

Wealth and Ownership.—The partition of the product of industry needs some social mechanism whereby individuals may utilize goods received. It involves questions of ownership and holding of property. Ownership is best defined not in virtue of any supposed ultimate or exclusive possession, but in terms of the sum total of rights and privileges which various persons in the community have over the object in question. It is essential to get the native point of view. Investigate concrete cases before attempting to elucidate principles. Terms such as "communism" or "individualism" as applied to the usage of a native community are best avoided, as they gloss over the complexity of the relations involved. Effort should be made not to label phenomena thus summarily, but to describe fully the use which may be made of the object by all the persons interested; the power which a chief, other individuals, or the community may possess to limit individual rights. Explain how and when these are exercised. Several persons may have definite rights to the same thing, *e.g.*, one to take game from land, another firewood, another to build a house there (*v.* also PROPERTY, p. 158). Reciprocity among relatives may be so well recognized as almost to overshadow individual ownership. For Transmission of Property *v.* INHERITANCE, p. 162.

The acquisition of objects of wealth presupposes some ideas of value. Note what are considered as desirable objects in the society, and the order of interest with which they are regarded, *i.e.*, their relative value. Are there any objects of special value, *e.g.*, heirlooms? Note the reasons for their importance; whether they play a part in festivals, ceremonial exchange, or religious ritual; or are associated with dead relatives, ancestral spirits, gods, incidents in traditional history, etc. Can they be used also for ordinary purposes? Note the value of food; any other purposes for which it may be used besides direct consumption, *e.g.*, gifts to chief, competitive displays,

regular tribute, or surplus for exchange with other communities.

Livestock.—Cattle form so important a part in the life of all pastoral peoples that special inquiries should be made as to the value of livestock (*v.* DOMESTICATION OF ANIMALS, p. 221, and for sacred animals *v.* RELIGION, p. 184). The pig is of almost equal importance in Melanesia. The economic value of livestock can scarcely be equated in civilized and savage society. While milk may be the staple food supply; among many people cattle are not bought or sold. They may pass from one family to another as part of the bride-price, or may be paid as compensation for bodily hurt or as blood-money. Concrete examples of the value of livestock should be obtained, and the occasions on which it changes hands. While it may often be ascertained that there may be a certain rough scale of values, *i.e.*, so many chickens are considered worth one sheep or goat, and so many goats or sheep one cow, the chickens, goats and sheep will be used in the ordinary way for barter and bought and sold for money (where this has been introduced), but not the cattle. Note if any particular class, sex or group of the community own or tend the various types of livestock, do the milking, etc., and the reasons adduced by the natives for such distinctions. Inventories of the livestock belonging to various households should be made, including dogs, whose value may vary much as to whether they are used for hunting, in sacrifice, or merely as house dogs and scavengers. Cattle or pigs with special points may be highly valued for ceremonial or sacrificial purposes. A relative scale of such values should be obtained when possible. For ownership of grazing grounds and wells *v.* LAND TENURE, p. 160.

Intangible Objects.—Copyright knowledge, and magic, can be regarded as property. Thus the right to perform certain dances and songs can not only be possessed and inherited, but sold. (*v.* STORIES, SAYINGS AND SONGS, and DANCING, pp. 327, 318.) Magical protective powers and knowledge have not only to be learnt, but to pass from one person to another—may be either inherited or sold.

Debts and Indebtedness.—How are these incurred and paid,

is there interest? *e.g.*, with livestock, must increase be returned, either actual or potential? Must material objects borrowed be added to at a definite rate? Where there is a medium of exchange is interest charged? If a debt cannot be paid in kind can it be remitted in labour? What means are taken to enforce the payment of debts? *v.* JUSTICE, p. 156. Can a man be enslaved for debt or give any relative in pawn for himself, *i.e.*, sell a child or nephew into slavery, p. 150.

Consumption and Saving.—Consumption indicates not merely absorption of food, but utilization of any object for the end for which it was designed—such as the employment of canoes in fishing, the wearing of ornaments, etc. The rate of consumption of goods is an indication of the economic welfare of the society. Note the relation between the quantity of goods produced in a given period and the quantity consumed, *i.e.*, what saving is done? Note whether it is proportioned to present and potential supplies, and with an eye to coming needs, or whether the balance is not well maintained. In a pastoral community is any hay or other fodder kept for winter use? If so, how is it prepared, from natural pasture or sown grass? How is it stored? Are there periodic bouts of consumption of food at feasts, or of ceremonial destruction of valuables? What is the effect of feasts on future welfare? Are there periodical shortages of food and are these remedied by extra labour beforehand? What is the extent of hospitality? What is the social attitude towards it, and what obligations are imposed by acceptance of it; is it based on reciprocity? Is prestige to be obtained from practising hospitality freely? *v.* RULES OF HOSPITALITY, p. 82. Are there proverbs, songs, legends or stories illustrating these points? When a surplus of food is produced, is it to guard against future scarcity, to provide for festivals, to acquire fame by possession of such wealth? What reason is given by the natives? Can this attitude be correlated with the potentialities of their natural resources, and with capacity to respond to sudden demands upon them? Is there any provision for saving and storing food, and for preserving it?

To what extent is this normally done? Is it dependent upon seasonal gaps in the productivity of economic resources? Note what provision is made for capital development, such as clearing of forest, making of roads, harbours, etc.

TRADE, EXCHANGE AND CURRENCY

Exchange.—The system of exchange varies greatly according to the economic structure of the society :—

(1) Intra-communal, as when one member of a village exchanges the product of his skill for that of another's. Exchange of this type within the community is correlated with the extent of specialization. Note the crafts in which it occurs, the mode of effecting the transaction, whether any bargaining takes place, and the extent of the practice.

(2) Extra-communal—when members of one community receive goods from those of another, giving some equivalent in return. To what extent does the community rely on its own resources? What products are gained from outside? What is given in exchange? How is exchange effected? Is it by individual transactions, trading parties, markets, fairs, by so-called *silent trade*

What is the aim of exchange—to secure goods of practical utility such as foodstuffs, stone for implements, iron, corn, or luxury articles, gold, pigments, feathers, ornaments, narcotics, etc.? Is it of ceremonial type, conducted from such social motives as ambition? Are there any myths about the origins of exchange?

MAIN TYPES OF EXCHANGE.

Silent Trade.—Where exchange takes place without two parties meeting. One lays down goods and retires while the other comes, takes them up, and puts in their place an equivalent which the first party, returning, removes. This practice is apparently confined to certain regions where there is mistrustful contact between two native folk on different cultural levels.

Barter.—Signifies a transfer of goods against goods directly,

and implies a haggling over the rate of exchange. Note the methods employed, and rate of exchange finally arrived at.

Gift Exchange.—The transaction takes the form of present and counter-present. Ascertain if any effort is made to obtain a stipulated object in return, or to argue about quantities, if the giver tries to appear as liberal as possible. Is there competition in gift-making? Is there any social compulsion to reciprocate the gift? Is there any expectation of return of greater value? If this is not made does the recipient suffer loss of prestige?

Gift exchange often exists side by side with barter in the same society. Note the occasions of each; to what extent do objects of either type given and received in exchange supplement existing resources?

Trade.—Where there is regular exchange of objects of utility between different communities, then a system of trade is in operation. Does this depend on differential natural resources, differences of industrial skill or aptitude? Is there a trading class? Have the natives any idea of profit from the transaction? a system of credit, and what security have they for this? Are there any trade depots, markets, fairs?

Destruction of Valuable Articles.—Are articles of value ever destroyed purposely, if so, on what occasions—the death of the owner, or ceremonially at public gatherings for display? What is the native attitude towards this practice, what reasons do they give for it, are there myths in connection with it?

Medium of Exchange.—Awkwardness of barter is avoided when some *medium of exchange* is in use. The ready acceptance of one type of article under all circumstances renders exchange much freer, since it obviates the necessity of reciprocal wants and possessions in the matter of goods. Such article being of fairly standard quality, is at the same time a *measure* in which the values of other things are reckoned; it is also a *standard of value* by which the worth of things can be estimated at different times and in different places.

Money.—By usage of economic science, “money”—equivalent practically to currency—signifies an object or substance which fulfils these functions. Therefore only

objects which circulate and act in this way should strictly be termed "money." The extensive use of an article in transactions, and a definite position on a scale of values, does not entitle it to be termed "native money" unless it is utilized as a *medium to facilitate exchange* of goods, and is incidentally also a *measure* and a *standard* of value. Describe carefully the uses to which any freely circulating objects of value are put; whether they are of ceremonial as well as of business importance, their value in terms of other objects and *vice versa*. Investigate their manufacture, and manner in which they come into circulation. Are any of these objects individually known; is there any history attached to them? Are other things commonly spoken of in exchange as being worth so much in terms of such articles?

It should be noted whether the native currency consists of domestically usable articles, or of tokens, or articles not domestically usable (the use of the term "money" being confined to the latter by some writers).

Familiar examples of currency are natural products, such as salt, fruit, grain, seeds, fish, shells, stones, drugs, timber and even livestock, and wholly or partially manufactured products, such as tea, sugar, spirits, dried fish, worked stones, hides, skins, feathers, domestic utensils, charms and spells, beads, personal ornaments. It should be noted how such articles are measured, whether roughly or precisely, and whether conventionally marked, stamped, or moulded, either officially or privately, to show their value. If the currency consists of tokens or articles not domestically usable, they may be either natural products, such as cowries; or manufactured articles, such as mats, imitation spear-heads, hatchets, hoes, knives, lumps or bars of metal of special forms. Note whether there are higher and lower values for money, and how they are arrived at. It may be by size; by multiplication, as in strings of beads or teeth, belts, bundles of feathers, shells; by intrinsic value, due to skill, labour, or difficulty in manufacture or production; or to rarity or antiquity, as with some kinds of beads; or by convention or custom. Sometimes the articles used for money are obtained by trade

and imported, like wampum beads, Venetian and Aggry beads, cowries, or imitations of native money. If some of the same description are foreign, and some home-made, what is the relative value of imported and native money? Can any of the articles be utilized for interest or accumulated as capital? Sometimes this is done by reckoning in lengths, folds, pieces, or parts that can be increased or diminished. Note how the value of metal money is assessed, whether by weight or quality (fineness). How is its weight ascertained? By handling? By scales? How is it measured? By comparison with any fixed standard, such as the seeds of plants? Obtain examples of the scales, and all standard weights. How is quality (fineness) assayed? By appearance? By age, as evidence of genuineness? By smelting? By comparison with any fixed standards? Obtain samples of *touch-stone* or other means of distinguishing different qualities of metal. How is any required quantity separated? By chipping, cutting, clipping, breaking? Is weighing, assay, "touch," or cutting performed by recognized assayers, jewellers, money-changers, or can anyone do it? Note all public or private marks put on the money to mark fineness only. Are these marks indigenous? or copies of foreign marks? Note all that the people themselves can tell about them.

How is the money reckoned? It may be by simple counting, or by a system of tally; or by a scale of pairs, triplets, decimals, dozens, baker's dozens, sixteens, scores, cents, or milles. Is there any mechanical counting by abacus, or tally sticks? Obtain examples of the apparatus, indigenous or imported. Describe fully the systems of reckoning, weighing, tallying. These are sometimes complicated and confusing to Europeans, and sometimes they have a multiple origin leading to confusion in the terms used. How is the value of goods or property generally expressed? It may be in terms of the money in use, or of weight, or quantity.

Coin is metal money of which the exchange value is marked or known, both for weight and fineness, by its shape, size, and marks. Note whether all kinds of coin are accepted, whether current or obsolete, foreign or native, and of what metals.

If some coins are not accepted, what reason is given by the people themselves? And by what indications do they decide whether a coin is "good"? Do the public or private marks thereon affect acceptance? Are unmarked, filed, chipped, or sweated coins accepted?

Collect examples of all current coins, and also of all ancient coins found in the locality, keeping careful note of the find-spot and place of acquisition in each case, so as to record each coin's range of distribution. Some kinds of coin, such as the Maria Theresa silver dollar, travel far more widely than others. Is any material other than metal used for coins, such as porcelain, leather, or paper? If so, how is it valued or marked?

Trade as affected by the Medium of Exchange.—Note all ways in which the medium of exchange affects the conduct of trade, or the mode in which traders make their profits and cover their wastage and loss; all recognized or customary differences between the weight or measurement *in*, and the weight and measurement *out*, and any custom analogous to buying and selling prices. Sometimes there are sets of differing weights and measures, for buying and selling respectively. Obtain examples of both, and in any case ascertain the precise weight of every weighing-standard, with a note of the purpose for which that weight is used. Sometimes there are "royal" weights or measures for revenue, tribute, or royal monopolies collected or distributed. Is there any debasing or forging of the currency or coinage, either official or private? Obtain full details of the method employed, and examples of base coin. What do people think of such practices? How do they affect the currency or coinage? Base coin often falls from its face value to something like its intrinsic value.

REGULATION OF PUBLIC LIFE

POLITICAL INSTITUTIONS

Introduction.—Wherever men live and act together, the preservation of law and order, the enforcement of obligations, privileges, etc., are all ultimately dependent upon the exercise

of authority. In almost every community there is some form of regulating authority, however rude, which determines in some degree the relations to one another of the members of the community. Ascertain whether any individual person or specific body is responsible for the maintenance of law and order within the whole community, takes cognisance of breaches of custom, organizes joint activities and enterprises, decides on question of peace and war, and represents the community in the performance of ceremonies. If so, who is the person, or of whom is the body composed? Investigate fully the nature of the activities undertaken by this authority. Notice particularly if it has any power to influence the course of social events by deliberate decision, legislative and administrative. Is there any differentiation of executive, legislative and judicial functions, or are all vested in and performed by the same persons or body?

The authority by which primitive communities are regulated is often slight and informal. Hence it is well to record every instance in which it is exercised, whether in the family, clan, association, occupational class, etc. The various authorities may at times conflict, *e.g.*, that of the clan with that of the association, and it should be noted what happens when they do so. As emergencies arise and are dealt with, you will learn the normal workings of the institutions of government; your informants will explain, amplify and correct; you will see the processes by which custom is enforced and modified, the balance of power, the provision for enforcing authority, its checks and limitations. Always try to observe the system as it actually functions in the life of the community, and note down all concrete instances of governmental activity. The following subjects are suggested for special investigation.

CHIEFTAINSHIP AND KINGSHIP

Such office should be distinguished from the personal prestige which attaches to prominent people. Chieftainship is frequently misunderstood. When, *e.g.*, a European administrator first comes into contact with a native people, it is convenient for him to have some individual with whom

he can deal. He therefore tries to discover the chiefs, in order to use them as go-betweens in his transactions with the people. Often, however, the people may have no chiefs; or, where there has been contact with Europeans, men who seem to be "chiefs" may merely be intermediaries between natives and foreigners. Chieftainship should therefore be spoken of only where there are persons who are regarded by the natives themselves as heads of the community, and who act as its rulers and representatives in political, economic, ceremonial, military or other affairs. The term "king" may be used where the importance and character of the supreme chief correspond roughly to the monarchical type existing in our own civilization.

Where chiefs or kings exist, determine the mode of accession to the office: personal achievement, or conquest, right of succession, election, ratification of hereditary claims by an assembly of certain special persons, designation by a priest or other authority of supernatural power (ancestral spirits, gods, etc.) represented by men or manifesting itself in some other way? Obtain full rules of succession, with concrete illustrations; where the office is inherited, note whether the heir is determined through the male or the female line. Obtain a list of previous chiefs, and note in what relationship they stood to one another. What happens when the heir is a minor, or there is no legitimate heir? On what grounds can people be excluded from the office—physical or other disabilities, membership of a certain class or kinship group, etc.? Are women eligible for the office? Describe fully the ceremonies of accession, noting the officiants, ritual, paraphernalia, place, time, etc. Are there any insignia, stools or thrones, etc., specially connected with the office? Is there any special significance or powers attributed to these and their possession? What are the special names or titles borne by the chief? Are there any myths, legends, or historical facts relating to the origin of the office and its powers?

Describe fully the normal daily life of the chief or king, noting how he spends every hour of the day; his dress, ornaments, dwelling, etc.; the etiquette and ceremonial observed

in approaching and addressing him or referring to him ; the prohibitions and obligations regulating the relations between him and his subjects ; and any ritual performances or taboos to which he is subjected. Investigate in detail the court personnel : members of the chief's family, advisers and officials, servants and slaves, etc. In each case mention name, age, insignia worn, method by which the office is filled, and functions connected with the office ; state if such persons belong to special clans or classes. Describe in detail the life of the court.

How are the wives of the chief selected ? Note the special ceremonies connected with his marriage ; the grades of rank and the respective positions of the co-wives, their functions, rights and duties, their mode of life, whether enclosed within a harem, guarded or free ; the position and privileges of the chief's mother, sister and children. Inquire into the rites connected with the birth of the chief's children, their naming, education, etc.

How long does the reign of the chief last : till death or for a stipulated period, determined in some way ? Is the chief allowed to die a natural death, or is he killed, deposed or otherwise put out of the way ? What happens to him when his bodily or mental powers begin to fail ? Is his death kept secret ? Note what happens during the interregnum ? Investigate the rites of public mourning, the taboos observed, and the persons affected by these ; the treatment of the members of the royal family, particularly the women, and also the brothers of the heir apparent ; the place and mode of disposing of the body, and other attendant funeral ceremonies. Is there any cult of dead chiefs or kings ? Are their bodies or parts thereof preserved, where, and in whose custody ? Describe any shrines in which dead chiefs are buried, the ceremonies connected with them, and the occasions on which these are performed.

Study in detail the aspects of public life in which the chief exercises authority. Notice the part played by him in giving audiences, administering law and justice, deciding on questions of war and peace, supervising and directing such economic activities as hunting, fishing, trading, agriculture, etc.,

regulating land tenure, controlling marriages, confirming inheritances, etc. Is the chief the war leader, or is he barred from fighting? Does he perform any important magical or priestly functions, such as offering prayers or sacrifices on behalf of the community, performing ceremonies for rain, fertility, etc.? Is he held responsible for public calamities, such as drought, excessive rain, epidemics? When such occur, does he perform purificatory ceremonies, or is he put to death, punished, or deposed? What duties, in the form of manual labour, military service, etc., do his subjects perform for him? If there is any official revenue, notice in what it consists, how it is raised (gifts, tributes, taxes, etc.), and how it is expended. What obligations has the chief towards his subjects, *e.g.*, protecting them from harm, supporting them in case of necessity, supplying them with feasts, wives, weapons, etc.? To what extent and under what conditions are his subjects at liberty to leave him and transfer their allegiance to another chief?

If there are several chiefs within the community, inquire into their respective status, powers and activities, *e.g.*, departmental chiefs or experts, such as war leaders, chiefs for hunting, agriculture, ceremonial performances (such persons may be experts in magical knowledge); chiefs appointed by a higher authority (these may be hereditary or selected); chiefs of localities, clans, religious sects or societies; paramount chief or king. Where there are subordinate chiefs, have they any power to act as checks on the autocracy of the paramount chief, to what extent are they accountable to him for their jurisdiction, what powers have they over their subjects, and does any right of appeal lie from them to the paramount chief? Describe fully the mechanism of the system.

In certain areas, where kingship is well developed, an hierarchy of officials to the king is found. These may include such functionaries as leaders of the army, special attendants on the king's person, official historian or annalist, chief eunuch, heralds, interpreters, etc. They often receive such titles as Chiefs of the Right or the Left, or are called after parts of the king's person, such as Neck of the King, Right Arm, etc. The meanings of the titles and the functions of such officials

should be obtained as well as the extent of their power and the methods of their selection ; whether appointed by the king, or his council, or the people, or whether they are hereditary.

COUNCILS

In communities where there are no chiefs, the regulation of public life is often vested in some sort of council. Even where chiefs exist, they rarely have absolute power, but are often controlled or advised by a council or act as the executive of some body. Describe any councils or public assemblies of this kind. Notice if the whole community takes part in them, or only, *e.g.*, the elders or certain special people. Are all women excluded or are certain ones allowed to be present, *e.g.*, those past child-bearing, or those who have some prestige ; or are there special women's councils ? How are the assemblies or councils constituted and assembled ; when, where and with what ceremonies do they meet ; how are the proceedings conducted ; what business is transacted ; how are decisions arrived at and how enforced ? Does the council meet and deliberate in secret, or publicly ? (*v.* also AGE-GRADES, p. 79).

MAGICIANS

In all cultures people are found who deal in the mysterious or supernatural, and are regarded as endowed with spiritual or magical powers, or as able to control, either for social purposes or for their own ends, the spiritual forces upon which the social welfare depends. There is no English term which can be used to cover all these activities, but persons of this kind may be loosely termed "magicians." This includes not only priests proper, who conduct religious ceremonies and communicate with the gods, spirits, ancestors, etc., but also sorcerers and others, who, acting in accordance with certain fixed rules, utilize supernatural forces in their activities. Such persons may have acknowledged administrative power, they may be employed for social purposes by the chiefs or other authorities,

or they may exercise influence so greatly that though their administrative power is quite unorganized it is yet felt.

Obtain the native classification and names of the various kinds of magicians, their types of activities and their social status and authority. Are they public functionaries or private practitioners, how are they resorted to, on what occasions and for what purposes? Are they rewarded or ill-treated according to success or failure? Do they work for good or for evil, or for both; if for evil, how are their activities counteracted, how are they recognized, tested, treated when discovered?

Are magicians male or female, or of both sexes; what psychical or physiological peculiarities do they show (susceptibility to trances, fits, "spiritual" possession, etc.); how do persons become magicians—by inheritance, initiation, ascetism, performance of certain ordeals, etc.; do they act individually or are they organized into fraternities with special or secret rites? Describe fully what part they play in the regulation of public affairs, *e.g.*, by imposing taboos, administering ordeals, detecting evildoers, performing war or economic magic, etc. (*v.* also RELIGION, p. 174).

RANK

Apart from the inevitable personal distinctions due to differences in age and sex, it will usually be found that differences also obtain between people with regard to social status, prestige, privileges, rights and powers. Sometimes these differences in rank are purely individual, dependent mainly upon personal character and ability; sometimes they are manifested in the division of the community into more or less distinct social classes, with hereditary rights or obligations.

In the former case, notice the particular criteria demanded for social esteem among the people whom you are studying, *e.g.*, bravery in war, skill in some occupation or industry, ability in council or debate, knowledge of tribal lore, wealth, generosity, intelligence, etc. Is social esteem of this kind limited to men, or may it be acquired by women also; if so, on what grounds? Do the relatives of men having prestige share in it to any degree?

How is prestige acquired, maintained and lost ? Do persons with special prestige differ from the rest of the community in mode of life, clothing, adornment, etc. ; what rights, powers, privileges do they enjoy ; are any "supernatural" powers or virtues attributed to them ; are they subject to any special taboos or ceremonial obligations ? Collect all the information you can about actual persons in the community with great prestige. Notice particularly what part they play in public affairs, in what directions their influence is exercised, and what authority they possess.

Social classes are frequently found based on differences of occupation, *e.g.*, hunters, fishers, herdsman, smiths, etc. ; or on hereditary position and wealth, *e.g.*, chiefs, nobles, commoners, slaves ; or the whole community may be divided into different strata, as in a mixed pastoral and agricultural community, where the herdsman and agriculturists may form two distinct layers of population, with definite privileges and restrictions, ceremonial and social, separating them, or as in India, where a fixed caste system pervades the whole structure of society.

Ascertain into what classes of this sort the community is divided, and upon what factors the class distinctions rest. Note the native names for these classes, their different social activities, whether they practise special arts and crafts, differences between them in dress, ornament, dwellings, etc. How is membership of a class determined—by heredity, or through adoption, initiation, etc. ? Is marriage permitted between the members of different classes ? If they are endogamous, how are violations of this law treated ? Where mixed marriages take place, how is the class of the children determined ? Investigate the rights and powers, and any special taboos and social regulations associated with the different classes, and any special duties of a political, religious, military or economic nature which they have to perform. Are special classes despised or honoured ? Where this is so, what reasons are given ? Is there any hierarchical system inherent in the class structure ? Collect any myths or legends concerning the origins and functions of the classes.

SLAVERY

In many communities persons exist who have not the status of freemen. All such persons are liable to be described as "slaves." But the condition of such persons is sometimes so unlike "slavery" as it existed in recent times in civilized countries that the name seems hardly appropriate. When the word "slave" is employed in the following questions it must be understood as applying equally to "serfs" or analogous persons. It is important to make out the exact legal and social status of such persons, as shown, for instance, in their relation to the rest of the master's family and their status as regards property, marriage, and inheritance. Are there any tribes, clans, or families who, though they are not slaves, are of traditionally lower status and have recognized duties or tribute to pay to the secular or religious authorities? The following points deserve observation. If slavery exists, is it of long standing or recent introduction? What is the proportion of slaves to the free population? Has it increased or decreased within historic times? Is there evidence for a difference of race between the slaves and the freemen? How is the status of slavery created? by birth, capture, conquest, trade, debt, crime, voluntary surrender, or at the wish of the family for debt (a variety of this is "pawning"), or religious dedication, or for any other cause? Are all kinds of slaves treated alike? If not, how are their position and treatment affected by any of these conditions?

All grades of "slavery" should be noted, how the slaves are used, and if certain occupations are reserved for slaves; if so, what reason is given? Does the kind of employment influence their status and treatment? What are their relations with free workers? Are slaves used in war? in particular, have they the right to bear arms? Is any attention paid to the education of slaves? Describe the dress worn by slaves, and all badges, brands, mutilations, and peculiar hairdressing; their food, and the mode of their burial or disposal after death. May slaves be eaten?

Who may (or do) own slaves? Are any slaves owned by the king or chief, or employed on public works, or in positions of

authority or trust? Are slaves owned by temples, oracles, gods, or religious societies, or by the dead? Are slaves presented or distributed by the king as a mark of esteem? May such slaves be sold, married or killed by the owner?

Ascertain the owner's rights over a slave. Has he the power of life and death, the right to punish, either generally or for attempted escape or suicide? If an owner kills a slave, is he ritually unclean? Has he any special rights over female slaves; any right to slaves' earnings and savings? Is the treatment of slaves humane or cruel in general? How are old and sick slaves treated? Note limitations of owner's rights. Is there any appeal to any external authority, or any penalty for ill-treatment of a slave? Note all customs relating to the sale of slaves; slave-markets, import and export, professional slave-dealing; formalities of sale; ritual acts; are slaves renamed on being acquired by, or changing masters? Can a slave voluntarily transfer himself from one owner to another? By what means? Are slaves lent, hired, pawned, bequeathed, prostituted? In case of sale, are slave-families dispersed or kept together? Has a slave the right to hold money or other property, including other slaves; any power of testamentary disposition, or of inheritance from the owner, from other freemen, and from other slaves; any capacity for contract; or liability for debt?

Has a slave responsibility for criminal offences; if so, how is he punished? Has he any capacity to sue or be sued at law? or to give evidence? Are slave witnesses liable to torture? Can a slave act as a substitute for his master in an ordeal, capital offence, or in cases of substitution for homicide?

Do slaves form social groups or any kind of associations of their own? If so, are these associations recognized by freemen, or secret? Is a form of marriage between slaves permitted or enforced? with what legal forms? Is the tie *permanent*? What is the status of the children? Is there any estimate of the fertility of slaves compared with free persons? Is marriage possible between slaves and free persons? What is the status of female captives? What is thought of the intercourse or marriage of a free man with

slave women, or of a free woman with a slave? Has such intercourse, marriage, or the actual birth of a child of either sex any effect on the status of either or both parties? What is the status of children born of such intercourse between a female slave or a male slave and a free spouse? May such children inherit property if the father, or if the mother, were originally free? May they succeed to a position in the tribe? What is done when a free man marries a neighbour's slave, or lives with her? Is payment demanded by the master? What does such payment imply, freedom or change of master? Do children by such a marriage revert to the owner of the mother, or do they belong to the husband or lover of the slave woman? Does payment change this?

Manumission.—Describe conditions and modes of redemption and manumission; is gradual redemption permitted? What is the usual age? Are slaves redeemed into the status of serfs, or into a state of freedom? What are the status and occupations of freedmen and freedwomen; the status of their children; the effect of marriages between freemen and freedwomen, freedmen and slave-women, etc.? Collect evidence as to public and religious opinion in relation to the custom and law of slavery.

SECRET SOCIETIES

Both age-grades (*q.v.*) and secret societies may have importance in the organization of public life. A secret society is an association membership of which is usually selective, and attained either by purchase or a ceremony of initiation, or both. It is sometimes public as regards membership, ceremonies, etc., but generally knowledge of its purpose and main proceedings is withheld from non-members. Where secret societies exist they may have no apparent purpose, or they may have certain administrative, educational, religious, military, or economic functions. Inquiries should be made as to their function, their numerical strength, their status and their relations to other authorities. Is their power accepted and employed for the punishment of crime or other administrative purposes, or are they merely tolerated, or actually

in conflict with other authorities? Some difficulty will probably be experienced in obtaining full information, and it is advisable that special tact and patience be exercised in investigating the subject.

Is membership voluntary or compulsory; restricted to one sex, or to a certain class or category of persons; how is it attained—by initiation, payment, performance of certain rites, etc.? Some form of initiation is almost invariably found. What are the preliminaries, the place and the duration of the ceremonies, the central features and any ordeals connected therewith? Describe the whole process, its paraphernalia, the formulae and spells, the people who officiate and the taboos observed by them and the other participants, the instruction given to the candidate, etc. If there is a hierarchy within the society, what is the number of degrees, the social differences between them, and how is the higher status attained? Note any badges, emblems, names, etc., of the society, together with any distinctive ornaments or clothes worn by the members. What degree of secrecy is observed as regards members, ceremonies, paraphernalia, formulae, myths, etc.? It will be useful to seek information about the society not only from members but also from non-members, and to see in what ways the accounts differ. Where a number of societies, of the same or different types, co-exist, note their relative importance and their relations towards one another. Collect all myths and traditions concerning the origin and power of these societies.

LAW AND JUSTICE

Introduction.—In all societies the relations between the members of the community are regulated by a body of observances, conventions and rules, such as fashions, manners, customs, conventional standards of etiquette and social intercourse, religious and moral precepts, etc. These make up what may be termed the laws of the community. Observe as fully as possible all the norms of conduct pertaining to such aspects of communal life as the personal relations between kinsmen, clansmen, and members of the community; the

status of husband and wife and their respective families ; economic relations ; regard for human life ; personal honour ; institutions such as rank, chieftainship, marriage, property, inheritance (*q. v.*), religious observances, etc. These are usually best determined not only by inquiring into and observing what beliefs and practices are customary, but also by noting carefully what kinds of action are regarded as constituting a breach of custom. If anything happens to excite general interest, say a family quarrel, a law suit, or a breach of the marriage regulations, notice what is said, what actions are praised, blamed or penalized, and what public opinion seems to require. Actual events give the best opportunity for discovering the moral and legal standards of a people. As among ourselves a certain latitude of action is tolerated though perhaps not quite approved. Discriminate between those manners and customs of which rigid observance is required, and those of which breaches are tolerated. To what extent does this toleration depend upon the preservation of a "decent secrecy" ?

Ascertain how standards of behaviour are impressed upon and taught to the members of the community (*v.* LIFE-HISTORY OF THE INDIVIDUAL, p. 84) ; whether they are codified or merely inherent in the social structure as manners and customs. Are any special persons held to be repositories of, or specially skilled in, knowledge of the law, etc. ? The connection of the different norms with religion, myth, cult, organization of secret societies, etc., should be investigated. Notice how laws come into being, whether they are all customary rules of behaviour which have grown up within the community, or are sometimes specifically declared by some influential individual or body and enforced by authority. The power of outstanding individuals to introduce changes in fashion and especially custom should be examined.

SANCTIONS

Since all the social norms of conduct serve to regulate the relations between the members of the community, these norms are provided with sanctions, *i.e.*, with social reactions to the actions of the individual. Sanctions may be

positive or negative. In the former, observance of the social standards is approved by the community, the individual is rewarded, held in respect, etc.; in the latter, their infringement is threatened with unpleasant consequences. Sometimes compliance with the standards is secured through unorganized social pressure, *e.g.*, by the threat of social ridicule, contempt, scorn, or ostracism, forms of chastisement to which natives are usually very sensitive. The observance of other norms is secured by ritual sanctions, any violation being followed automatically by evil results, without any overt interference on the part of the community. The breaking of a taboo, *e.g.*, often renders the offender "unclean," and may result in disease or even death, or a punishment may be inflicted by some supernatural power or spirit. Other types of norms, again, are sanctioned by the organized reaction of the community, acting as a whole or through its authorities, or certain groups, or individuals. Thus the magician will use his power to bring about the illness or death of the culprit, or a regulated fight may ensue, or the culprit may have to undergo an ordeal or trial. Occasionally a group of people will organize an armed party against the offender on their own account, but with the permission of the community; or again the culprit may be tried and punished by the judicial authorities of the community. Such sanctions may be referred to as "*judicial sanctions*," as opposed to the ritual and unorganized sanctions which do not involve the active participation of the community through recognized agencies.

Make a careful investigation of the different forms of sanction, and note the basis on which they rest—beliefs, moral precepts, actual institutions, etc. Study each norm of conduct with reference both to the way in which it is preserved and imparted to social knowledge, and to its sanction.

In the case of *ritual sanctions*, note what types of action involve their operation; what happens to the offender—is the working of the sanction inevitable, or can he be purified in some way, *e.g.*, by expiation, sacrifice, confession, performance of some rite, etc.; what attitude is adopted towards

him by the community—is he avoided and cut off from social intercourse or driven out of the society, etc.; and do the consequences of his action affect his relatives or other members of his household, local group, etc., as well as himself? (v. also *Taboo*, p. 186).

JUSTICE

Legal procedure is concerned almost entirely with the breach of those norms which involve judicial sanctions. Ascertain in the first instance what actions involve such sanctions. Notice especially what happens in the case of homicide and bodily injury; incest, adultery, seduction, rape, and breach of the laws of exogamy; theft, the killing of other people's animals, injury to their property, etc.; slander, disturbance of the peace, revolt against communal authority; witchcraft and black magic. In this connection inquire into the responsibility of the culprit for wrongs committed voluntarily or involuntarily, accidentally, through carelessness, etc. Is any distinction made in the sanction according to the motive of the culprit, or are only the consequences of his act considered? How far are slaves, women, children, idiots and animals regarded as responsible for their actions, and if they are not held responsible does any one else bear their responsibility? To what extent are the relatives of a man, his clansmen, members of the same class, association, age-grade, class-group, chief, etc., involved in joint responsibility for his actions? Is any distinction made according to whether the wrong affects a stranger or a member of the same community, or to the status, age or sex of the victim or culprit?

When a wrong has been committed, who takes cognizance of it—the victim and his relatives, clansmen, etc., or the whole community through its ruling authorities? Do the victim and his relatives take direct action against the culprit and his relatives, or is there a central authority to which cases are brought for trial? Distinguish carefully between those actions which are prosecuted directly by the victim and those which are prosecuted by the communal authority.

Where the aggrieved party takes direct action, is any form

of blood-revenge practised? If so, is it employed for deeds other than homicide? Whose duty is it to take blood-vengeance—close relatives only, clansmen or members of other social group, masters for their serfs? Who takes vengeance for a woman—her husband or her own family? What happens when culprit and victim belong to the same family, clan or other social group? How long does the blood-feud last: is it satisfied by the killing of the culprit or a member of his social group, or does it develop into a continuous vendetta? How is this ultimately ended—*e.g.*, by intermarriage—and with what ceremonies? Is blood-vengeance ever commuted to payment for the injury; *i.e.*, *blood-money*. If so, is the aggrieved party at liberty to refuse such compensation? Does the price depend upon agreement, or is there a traditional tariff schedule defining the payment to be made for all possible injuries? Does the price vary with the age, sex or status of the victim or culprit? Must compensation be paid in any special form, *e.g.*, cattle, garden produce, women, slaves, etc.? What people are expected to contribute to, and what people can claim a share of, the blood-money? Who regulates the payment, and what happens if it is not made?

Where judicial trials are held, notice the composition of the court, when and where it is held. Who initiates the prosecution—the plaintiff or the community through its agencies of government? Where both occur, for what types of action are they respectively employed? How are culprits detected, arrested, summoned and brought before the court; how are the proceedings conducted; what proofs of innocence or guilt are demanded; what regard is paid to evidence? Notice the employment of oaths, ordeals, counsel, etc. How is judgment arrived at and how pronounced, and are there any rights of appeal; if so, to whom? What kinds of punishment prevail—*e.g.*, death, mutilation, chastisement, outlawry and banishment, slavery, confiscation of property, fines—and to what crimes are they respectively applied? Where fines are imposed, of what objects do they consist; who contribute towards them and who benefit from them, and in what proportion? Does the court share in the fines or claim any fees?

If the latter, who pays them? How is the judgment of the court enforced?

Where there are subordinate courts, with what kinds of cases do they deal, and to what extent are their judgments binding or subject to appeal and revision by a higher court?

Are there any ways in which disputants can settle their conflict outside the court—*e.g.*, by regulated combat, composition by gift, licensed plundering, etc.?

Endeavour always to distinguish between major and minor offences. Notice especially what are regarded as offences against the community as a whole and what as against the individual, and indicate any differences in their respective treatment, sanctions, etc. Attend all the legal trials you can, and record all details of cases that come up for trial.

Note any *rights of asylum* for fugitive criminals, slaves, etc. What persons or places have power of sanctuary? Does the refuge protect against the agents of the law or only against private foes?

PROPERTY

The conception of ownership varies considerably according to the social system, and within the community according to the form of property. All the different conceptions should be noted. In all societies there exist both individual and collective ownership. This is a subject requiring very careful investigation. It will usually be found that objects such as clothing, implements, utensils and weapons are owned by individuals, and that the title to property of this nature rests on effective utilization or on individual effort, each person owning what he has manufactured. Similarly, ownership of trees often belongs to the planter irrespective of the ownership of the land on which they are planted. On the other hand, the ownership of many objects, such as houses and land, *v.* LAND TENURE, p. 160, may be collective, *i.e.*, a group of persons may exercise joint rights of possession, utilization, etc. Often there is a spurious appearance of collective ownership, as in the case of a canoe which is used and seemingly owned by a certain group, but closer investigation will show

that the manufacture of the canoe is due to the initiative of some particular individual, who directs its use and is regarded by the others as the owner, and who makes some form of payment, *e.g.*, by way of a feast, to those who assist him in its construction, or receives their services as a right in virtue of their social relationship to him. The term "collective ownership" should not be used unless, on detailed analysis, no trace of individual ownership is found.

In primitive societies ideas of property are not restricted to material objects but are extended to incorporeal things such as myths, songs, dances, prayers, magical formulae, etc., which may be used only by the originator or possessor (the modern law of copyright is somewhat analogous to this), or again there may be "ownership" of heavenly bodies, natural phenomena, and whole species of animals and plants. Note what objects are held as property. Inquire into the rights, collective or private, over all such things as weapons, clothing, implements and utensils, live-stock, crops, houses, objects of ritual significance, folk-tales, ceremonies, magical formulae and spells, and other incorporeal things. For this purpose the GENEALOGICAL METHOD (*q.v.*) is invaluable. An inventory should be made of all the possessions of certain persons and groups of persons. Ascertain how the property was obtained and what will become of it on the death of the owner. If possible, inquire into the history of lands, dwellings and similar property, whether individual or collective, over a period of several generations. Make plans and maps. Notice how far ownership is vested in the community as a whole, in a definite social group, or in the individual. Where it is collective, is the property used freely by all individuals or quantitatively allotted? Can property be alienated, sold or otherwise disposed of; if so, by whom, and on what conditions? Examine the functions and rights of the head of a family or household with regard to the property of its members; the rights of a chief or the community as a whole over any part of the property of a family or individual; of masters over the persons and goods of serfs and slaves; the power of widows and minors to own property and the way in which it is

managed on behalf of the latter ; the extent to which women can own property both before and after marriage.

Notice any distinctive marks by which the ownership of any object is indicated.

LAND TENURE

A right understanding of the native laws of land tenure is of first importance where white men govern primitive peoples. The system of land tenure is always dependent to a great extent upon the mode of subsistence of the people and their geographical environment, and is often correlated with the political organization of the community, especially with the conception of chieftainship where this is found. Moreover primitive peoples frequently do not regard land as a form of real estate in itself, but rather as a medium which can be utilized, for building, cultivation, grazing, hunting, etc. Hence unused land is rarely regarded as property, but acquires value only when put to some use. The native conception of land as a form of property therefore requires careful consideration.

What are the geographical bounds of the community, and how are these defined, *e.g.*, are there boundary marks ? Is exploitation of the land restricted to members of the community, and what occurs in the event of infringement of territorial rights by strangers ?

Among some *hunting and collecting* peoples individual rights over tracts of land are recognized, but more commonly the community regards a certain area as its hereditary grounds open to exploitation by any of its members but prohibited to strangers. Even here, however, a form of spiritual ownership by individuals may be found. Where any form of individual ownership is observed, note on what grounds the claim is based, and what rights the individual exercises over the land. What happens in the event of trespass, when game is pursued into the lands of another community, group or individual ? Are land-marks used ? If so, describe them.

Among *pastoral peoples* is grazing in common permitted over the whole region occupied by the community, or have certain

groups, families, etc., their own particular grazing grounds? Does this vary according to the season and richness of the pasture? Where there are group or individual grazing grounds how are these demarcated, and what happens in the case of trespass? Inquire into property rights over wells and permanent water-holes. For property in Livestock, *v.* p. 136.

Among *agricultural peoples* it is often found that the rules of land tenure vary according to the uses to which the land is put. Thus certain tracts may be reserved for the community as a whole for hay or thatching grass; others may be allotted annually for cultivation; while others may remain in the hands of individuals as long as cultivation is continued, or may even be owned absolutely by them. A distinction will usually be found between land which is renewed and that which is under permanent cultivation. Often the land itself is regarded as belonging to the dead members of the community, and the living members, whether as a group or individuals, are only trustees with cultivating rights.

Where the land is held in common, record the obligations for its use by the members of the community. If the land is cultivated in common, ascertain how the labour is assigned and the produce distributed. How is the land for cultivation selected and distributed among the cultivators? Who regulates its distribution and use? Do chiefs give permission for the cultivation of land, and can they confiscate it if it be not cultivated or sustained? Do the same pieces of land continue in the occupation of the same cultivators, or are there periodic redistributions? What rights has any cultivator in the land itself, in the seeds, plants, trees, and in the produce? Is there any form of private ownership by individuals or families and, if so, on what are the claims thereto based—purchase, heredity, reclaiming the land from the bush, etc.? How far does this diminish with traces of cultivation, or when the owner leaves the land? Is land thus owned alienable, can it be leased, divided and inherited, and under what conditions, if any, does it revert to the community?

Where the mode of subsistence is a combination of several different forms, how is the land divided for the practice of

each—*e.g.*, woodlands reserved for hunting, hillsides for grazing, valleys for cultivation, etc. ? Inquire into the property rights, communal and private, over game, water, the foreshore, fish, salt deposits, treasure trove, property lost on the land, etc. Have others than the owners the right to the produce of the land, to trees or other natural objects, to access in pursuit of game, and to shrines or spirits connected with the land ? How have these rights been acquired, are there payments or duties connected with them ? If land is used by anyone other than the owners, is there anything in the nature of rent, tribute, tithes, etc. ? Is any land held and used by anyone other than the owners for a specified period, and how are these and other contracts of long duration recorded and enforced ? Give the details of some such actual agreement.

INHERITANCE

Investigate the customary rules of inheritance by the genealogical method, and obtain actual histories of inheritance. Note how far the rules of inheritance coincide with those of descent. Often the inheritance of different kinds of property follows distinct principles : thus certain goods may pass to a man's son, others to his sister's son.

What forms of property are inherited ? Is any property destroyed at death ? Where there are several heirs how is the property divided among them, which of them obtains a major share or has the right to certain particular objects ? Do primogeniture or ultimogeniture occur ? What rights have adopted or illegitimate children ? What happens when a man dies without heirs ? Can women inherit, and what happens to the property of a woman at her death ? To whom does property acquired by a man at marriage pass at his death ?

WARFARE

The so-called "natural state of war" between simple societies needs precise investigation. The people's own opinions should be collected, and actual instances of violence between members, or groups of members, of different com-

munities should be carefully described with all attendant circumstances, and popular comments on the behaviour of both sides.

Even in very simple communities war is distinguished from private acts of violence committed by, or on, individual members of another community; though these acts may easily lead to war.

In societies, where political authority is weak, it often happens that there is an appeal to force between a social group belonging to one community, and a group belonging to another, as for instance in a blood-feud, without either community as a whole being involved in war. A *vendetta* is usually between groups within a community. Such private wars and the occasions of them must be distinguished from public quarrels and war between whole communities. How are blood-feuds terminated and compensation arranged?

Distinguish also between war undertaken to decide a particular quarrel, and habitual *piracy*, *head-hunting*, and taking of trophies, or looting of neighbouring settlements by a predatory tribe, or by a gang of robbers who are often outlaws drawn from more than one community. The status of the aggressor may determine what methods of defensive war are allowed. Note the general attitude towards raids, how are they conducted, and what preparations are made in anticipation of them?

Causes and Occasions of War should be described as they occur, with full record of people's opinions as to the rightness or wisdom of particular wars. Note carefully all preliminary exchanges of opinion, protests, negotiations, challenges. Who may declare war? Is the general consent of the community required? If so, how is it sought and given? Is there formal declaration of war? If so, how are declarations of war or challenges to combat conveyed from one tribe or one clan to another? If a special herald or messenger is sent state his status or qualifications. In what form does he deliver a declaration of war or challenge to fight? Is a special *locus* indicated or selected? Does the messenger of war indicate his mission by song or otherwise upon entering the

village? Does he deliver the challenge or message to a particular functionary of the challenged tribe or clan? Sometimes, for instance, where there are war-chiefs and peace-chiefs in a clan, declarations of war and challenges are delivered to the war-chief. How is the messenger received by the people to whom he is sent?

Is the time or the day on which hostilities are to commence indicated? Sometimes, for instance, a piece of knotted string is sent, each knot indicating a day from the day of delivery to the day on which hostilities are to commence. Sometimes, on the other hand, a messenger will announce that a state of war or of hostilities exists.

What preparations for war or warlike operations are permitted or undertaken before the declaration, or forbidden by custom till after it?

Truces and Treaties of Peace.—When war has once begun, how can it be ended? *Truces* are agreements to interrupt war at a particular time, or place, or between particular people. *Peace* should be reserved to describe an understanding between communities to refrain from all acts of war without limit of time. *Treaties of Peace* are agreements between communities to abstain from war so long as specified conditions are not broken by either side. All such agreements are usually made with formal *covenants* or *oaths*, with penalties for non-observance, and other safeguards such as inter-marriage or transfer of hostages. Note all provision for the *safe-conduct* of messengers or non-combatants from one side to the other, and for the arrangement of terms. What actually happens if a truce or treaty is broken? Who is held responsible by the injured party or by the aggressor? Can the private act of an individual break a public treaty? Describe all ceremonies used by either side at the end of a war or on the return of the army. What is done with persons, weapons, or other property taken from the other side during a war, or given up under the terms of peace? Does war result in permanent conquest of one people or district by another? If so, what relation exists between conqueror and conquered? Is tribute enforced on the conquered? When an alliance is sought are

special objects, such as betel nuts, sent as a sign ? The manner in which such an object is received should be noted.

Customs of War.—Are “all things fair in war” ? or are some forms of force, or of weapons, or of deceit prohibited ? If so, by what authority ? and what happens if these rules of war are broken ? Are there rules for surrender of individuals, armed forces, or forts ? Special attention should be paid to the treatment of women, children, sacred persons, and other non-combatants, spies, rebels, outlaws, deserters, prisoners (*v. Adoption*, p. 65). Distinguish between the treatment of friendly and enemy wounded and dead. What reason is assigned for the eating of dead enemies, are only portions eaten, if so why and by whom ? May women take any part in war ? Are any places or times exempt from war, such as markets, temples, festivals, or particular seasons ? Are there any fighting seasons, or fields of battle ? Is there any limit to the number of people that may take part in a war or a fight ?

Apart from more general or more serious warfare between tribes, is there any formal institution of combats between clans or factions ? If so, what are the occasions when resort will be had to these formal fights ? Are equal numbers of combatants selected from each side ? How are the warriors selected ? How are they equipped ? What are the conditions of the combat ? For instance, are blows exchanged alternately ? Are certain formal parries allowed ? Are certain blows barred ? By what rules is a decision come to, or the victory allotted ?

Organization of Warfare.—Varying degrees of complication ensue when warfare becomes organized. Note who may, must, or need not take active part, or who are assigned other special duties in war-time ; limits of age for service ; the arrangements for enrolment, training and summons for war ; and for drilling in peace-time ; the preparations of all kinds for war ; how the warriors are classified, grouped, and commanded, the special accoutrements and insignia of the various bands ; the fighting strength of the people, which should be checked by the genealogical method. Note fully all weapons and other equipment *v. WEAPONS*, p. 231, including all

badges, signs of rank or special duties, emblems or other objects carried by a war party to ensure victory ; all uses of animals or machines of any kind ; all provision for maintaining the fighting-force, for tending the wounded, rewarding bravery or skill ; for enforcing discipline and observance of the rules of war. Especial attention should be paid to all religious and magical observances or restrictions before, during, or after the fighting, and, if possible, the reasons given by the people themselves for them should be ascertained. How are fighting forces organized, commanded and led, and what are the powers of the several officers ? What are the checks on the power of military leaders ; and have they any authority except in war ? Is there a council of war ? Is anyone responsible for religious and magical practices connected with war ; such as omens, oracles, incantations, prayers to protect warriors or harm the enemy ?

Describe as fully as possible the customary formation of the troops, their order, movements, and evolutions at all stages of the warfare, and in victory or defeat ; provision for scouting, obtaining information about the enemy, methods of signalling and conveyance of information, orders and words of command ; all forms of attack, feints, ambushes, single combats ; all camps, temporary or permanent, entrenchments, forts and the operations for attacking them, all means of exciting courage, enthusiasm or other warlike qualities, or for terrifying or disturbing the enemy. Note all war-cries, military music, war-dances (whether before or after the war), challenges, harangues.

Naval Expeditions.—For what objects are maritime expeditions undertaken ? Are they undertaken to distant or neighbouring islands for the capture of women, of slaves, of food, to enhance the prestige of chiefs or tribal units, or to explore new territories or islands ?

Describe all the preparations that are made for maritime expeditions : the number, size and construction of war vessels, how they are provisioned ; how the vessels are manned, and the leaders chosen ? Do hostile fleets of vessels engage each other at sea ? Describe all magical preparations and

observances carried out at all stages of operations ; any omens recognized or sought for and methods of divination. Describe all restrictions or taboos imposed previous to, and during, maritime expeditions, on those taking part as well as on those left at home.

Effects of War.—How is war regarded by the people ? Have they any beliefs, traditions, or observances connected with war or warriors, or the fate of those who are killed in war ?

NOTE ON PSYCHOLOGY

PRIMITIVE MENTALITY

The object of this work is to encourage accurate observation in the light of anthropological knowledge, not to advance any particular theories. In this section the same point of view will be taken, and although no new psychological theory is upheld attention must be drawn to the fresh avenues opened up by recent psychological investigations, which have been particularly fruitful towards the understanding of savage mentality.

Experimental psychology has shown that except as regards the threshold of pain the sensory reactions of the lower races so far examined scarcely differ at all from those of the European. The apparent superiority in visual, auditory, and olfactory powers, reported so frequently of the savage, is dependent upon knowledge of the local conditions and on personal variations. The threshold of pain appears to be higher than that of the average European, and this may be one of the elements in the fortitude shown by primitive peoples under ceremonial mutilations. The old assumption that civilized man is guided throughout life by reason and interest led to much false speculation as to the guiding principles among savages. Modern psychology has given a place of importance to the unconscious—which is essentially emotional and non-intellectual—in the motivation of both civilized and savage behaviour, normal as well as abnormal. It is probably correct

to state that there is no type of religious belief or ritual practice found among primitive peoples that cannot be paralleled among peoples professing any of the great religions of civilization either now or in the recent past. Whether the similarities of belief are due to contact or not is of no importance in this connection, for the fact that they are psychologically either conceivable or acceptable proves that there is no fundamental difference in the mental make-up of so-called "savages" and of civilized peoples, though there may be great difference both in "social heritage" and mental capacity. The similarities in many particulars in the belief and practice of witchcraft among primitive peoples, and among our own in the very recent past are obvious to all.

The study of the unconscious has shown the importance of symbolism, and this probably plays a greater part among primitive peoples than among Europeans. It is here that a link may be found between certain phenomena in savage and civilized life. In dreams of the white races persons may be symbolized as animals or even as plants, indeed this is normal among children in waking hours. This may be but one manifestation of that attitude to the animal and vegetable kingdom which holds so important a place in savage life, and finds expression both in the complicated social and religious systems of totemism and in less organized animal concepts of affinities.

Another process akin to symbolization is dramatization: persons in abnormal mental conditions frequently derive great emotional satisfaction from the dramatic expression of a mood or an idea. This may well be compared with the dissociated states into which most shamans and priests, who are experts in auto-hypnosis, pass during magico-religious ceremonies—a condition highly infectious to the onlookers, who frequently also become "possessed." Here we have the key to much ceremonial behaviour, the performers often being unable to explain the motive of their actions when they have regained normal consciousness, though they may to some extent remember them and will probably know that they were traditionally correct. Among Europeans pronounced dramatization is

usually regarded as abnormal, among primitive peoples the practice is common and the practitioners are revered. Many forms of ceremonial behaviour—such as *rites de passage*—may be regarded as dramatizations, though they are performed in full consciousness. It is this frequent contact with the unconscious, often through the mediation of the priest or medicine-man, that marks a difference between savage mentality and that of civilized communities. And this is one of the reasons why savages are frequently compared to neurotics and psychotics.

Although the savage is notoriously conservative he is particularly subject to suggestion of a certain type. His lack of knowledge of the physical causes of disease and death *v.* DEATH, p. 110, makes him peculiarly susceptible to the suggestion of the magician both for good and ill, and when we consider the power of suggestion in our own civilization it is not surprising that savages, whose religious beliefs are not put away in watertight compartments (as among so many of the “civilized”) but are always in evidence and are intimately connected with the power of spirits, should fall ill and die because of the machinations of the magician. Again, the close connection between the living and the dead, who are seldom “dead” in our sense of the word, has a powerful influence on primitive psychology and may have much to do with the calm submission with which most savages are ready to meet death by epidemic, disease, human sacrifice, and suicide.

Compared with the extreme individualism of the Western European, the amount of co-operation shown by primitive peoples is remarkable. A savage rarely seems to work for personal gain alone, but for some group to which he is bound by mutual duties, relationship, membership of a clan or society, or some other social bond. This sense of correlated responsibility is undoubtedly of value to the community in the struggle for existence, and is often strengthened by ritual and law as well as by public opinion. It has been shown (*v.* SANCTIONS, p. 155) that certain crimes which are considered an offence against the community require no punishment, for this will fall automatically from the displeasure of ancestral spirits or

supernatural powers. It would be a mistake, however, to regard this communal trait as a proof that the savage is incapable of individual effort or personal greed, just as it would be to suppose that the servility which necessarily accompanied the Feudal System proved the absence of other aspirations among the peasant populations; therefore statements concerning the so-called "communistic" habits of savages should be supported by examples.

There is one marked difference in training which probably has far-reaching results in the adult psychological make-up of the savage and the Western European. Among the latter a normal infantile sexual interest is generally regarded as followed by a latent period before adolescence, and European training tends to cause inhibition and to emphasize this latent period. Such observations as have been made on the children of savages scarcely show this latent period. Children's games, in which they copy grown-up behaviour, commonly have an open sexual interest unchecked by training. Further investigation on this matter is needed.

It is probable that certain mental traits as well as physical traits may be regarded as having racial or ethnic value, *i.e.*, as being bound up with the "race" or breed. However, generalizations founded on mental traits should be supported by examples, and wholesale statements as to the truthfulness, honesty, bravery, etc., of peoples do not carry us very far. Travelling from tribe to tribe the observer is immediately struck by outstanding features, *e.g.*, personal cleanliness in one tribe and its lack in another (apart from the accessibility of water), while among peoples showing equal religious preoccupation one may exhibit meticulous care of shrines and the other complete neglect of holy places. Indifference to strangers and their belongings may be felt, or there may be so much interest in strangers and such adaptability that new articles are immediately copied. Love of display varies, so also sociability and conviviality. It would be interesting to correlate all such outstanding features with one another, and the whole of them with the environment and the social organization.

Recent work on child psychology and the psychological examination of first offenders tend to emphasize the great importance in character formation of early influences and environment. In savage society that has not been broken down by white contact children tend to be brought up under fairly uniform conditions, and probably very rarely suffer from neglect or lack of affection or from social disabilities, so that innate tendencies may have a more even chance of development and a more uniform psychological type may appear as the result. This comparative uniformity of conditions, which does not encourage a large normal variation in character formation and hence in adaptability to changing environment, may be an element in the rapid degeneration which so frequently follows under the changed conditions brought about by the sudden introduction of European culture. This point has been brought forward not so much for its anthropological as for its administrative value. The depopulation of certain areas under European influence is a matter of grave concern, and it has been recognized that, apart from disease, alcohol, and administrative errors, depopulation has a psychological as well as a biological basis. If the psychological basis could be more exactly determined we should be in a better position to deal with the problem. The reactions of children to their environment and their adaptability to new conditions (as well as that of the adults) are therefore subjects worthy of observation, but have seldom been made (*v. DEMOGRAPHY*, p. 60).

Since the child is father to the man, children should be observed. The degree of indulgence shown to children should be noted, and how much (if at all) parental care interferes with the liberty of the child to indulge in his own pleasures. Threats of punishment to children which are not carried out (including some with no intention or possibility of fulfilment) are frequent among civilized societies. Are such threats made, and, more especially are children threatened with genital mutilation? At what age is a child taught personal cleanliness, and how (if at all) is he punished for neglect of this?

The first signs of fear shown by the child, and its treatment by adults who may be present should be noted. In this respect there may be considerable difference between the savage and the civilized, and this may influence the adult mentality. The civilized child, guarded against natural accidents, is usually early taught the fear of punishment and sin; the savage child, less protected, is seldom punished and is sometimes even considered incapable of sin until he is old enough to be initiated and to learn the habitual taboos.

Other points to observe are :—

The age at which physical modesty appears, and to what extent this is taught.

The tendency among groups of children to accept the leadership of one. The methods adopted by such natural leaders to enforce authority.

Tendencies towards quarrelsomeness, aggression, or cruelty, among children, and also constructive, acquisitive, and artistic tendencies, display and curiosity. The attitude of the elders towards childish curiosity should also be noted. Do elders wittingly give false information to children?

The occurrence of all types of mental abnormality should be recorded and the native attitude towards them and their treatment noted.

DREAMS

The attitude toward dreams should be investigated. Are they usually taken seriously, and if so would a person who has had a vivid dream consult a medicine-man or other expert? Where this is the case the type of dreams can be observed, as well as the nature of the interpretation. In the past relatively few dreams other than those referring to ancestors have been recorded; this may be due to the influence of animism and associated doctrines. What is now required is a series of dreams and their association with the life and beliefs of the dreamer, it being noted that certain dreams (type dreams) are known to occur in Europeans, Negroes, and many Asiatics. Such dreams are (1) the flying dream (of good omen),

(2) climbing a tree or going up a hill (usually good), (3) loss of tooth or teeth (bad, death of relative or friend), (4) dream of raw, often cut up or jointed, meat (bad); and it would be interesting to know whether these occur in America and the Pacific. It is suggested that the following method (as nearly as possible) be used in recording dreams:—

(a) The dreamer's account should be taken down word by word in the vernacular, without interruption, prompting, or questions.

(b) He should then be asked to explain the whole dream, and his statements recorded. If the dream is one with a recognized conventional (group) meaning, experience suggests that no great difficulty will be found in eliciting this. There should be no insistence on an explanation as, unless this is obvious to the dreamer, it may be expected to discover more under (c).

(c) After this, unless the dream be of the conventional type, (with group meaning) or of the obvious and open wish fulfilment type, the dreamer should be asked of what each incident or figure makes him think.

(d) It may then be well to ask the dreamer to repeat the whole dream. This account may well be found to be more elaborate than the first and may throw light on the true meaning (latent content) of the dream or of incidents in it (an explanation of even a single incident is worth recording).

It may help the investigator to remember that, although Freud, to whom we owe the first clear statement of dream mechanisms, believed that dreams refer predominantly to the sexual sphere, further research, particularly experience of the War neuroses, shows that any emotion, especially if accompanied by psychic conflict as in the struggle between fear and duty, may be the efficient cause of dreams. Jung, if we understand him aright, regards the dream as an attempt (usually by way of analogy) at adaptation to present or future demands or difficulties, while it has been suggested that one function of the dream is to make some of life's problems clearer to the dreamer.

RELIGION AND MAGIC

Religion from the point of view of the field-worker consists mainly in an attitude of mind, which is largely emotional, towards man's environment in its various aspects physical, social and psychical. This expresses itself by means of actions, objects, and words. Typically there is a belief in supernormal agencies or beings who may have to be propitiated, or occasionally cajoled or threatened.

Magic, on the other hand, is typically a method by which the desired aim is achieved by the direct action of rites, objects, or words.

Although in their extreme manifestations religion and magic are very distinct, yet frequently it will be found that they merge into each other. For this reason it has been customary of late to use the term magico-religious to cover both magical and religious beliefs and practices, and this makes allowance for the haziness or entire absence among backward peoples of a distinction that comes into full being at a later stage of human progress.

As it is the primary aim of the field-worker to record what exists among a given community, there is no immediate need for him to occupy himself with the exact definition of the terms employed by students at home. If the field-worker employs a standard term in order to describe the character of the religion of the people with whom he is dealing, there is a danger that he will overlook those local distinctions which may render his particular application of that term somewhat misleading. It is much better for him to make an objective record of all the data as far as possible independently of whatever classification may be made of them by himself or others.

In seeking to investigate magico-religious facts, the ethnographer enters upon the most difficult of all his tasks. Apart from the jealously-guarded secrecy of most of these beliefs and practices, the mystery that envelopes so much, and the reticence that characterizes the native attitude towards them, it is extremely hard to get into touch with this utterly diffused and largely unorganized phase of experience ; and simply because

the observer is not accustomed to recognize similar experiences in himself, he may easily fail to notice most of it.

It is especially important to note how far uncivilized people distinguish the spheres of the "sacred" and the "profane." It is important to note when such a distinction is expressed in native language or behaviour; whether, for instance, there are special names for what we call the "supernatural" or for things connected with it. Such distinctions may come out in the observer's study of his material though he may not be able to formulate them at an early stage.

It will usually be found that with uncivilized man, the magico-religious side of everything is uppermost. Although he is intensely keen and practical in whatever he is about, at the same time he is primarily concerned with magico-religious ritual, object, or word as believed to control the process from first to last, so as to leave nothing to chance. It is suggestive that not all occupations or manufactures have a magico-religious content even among a given people. Thus garden-cultivation is characteristically full of ritual, which is absent among the same people in the raising of trees that afford a supply of food. In some forms of fishing, such as hunting the dugong, or turtle, fishing for sharks, etc., there is a highly developed magic which is absent in fishing by poison or other simple methods. The construction of a canoe, or of a clubhouse entails protracted and complex ritual which is absent from ordinary house-building. Pursuits such as war and love, as well as certain forces of nature, weather, disease, and the like, are almost completely governed by forces which ritual can control.

These examples suffice to show that ritual tends to be present where the elements of chance and danger occur, but is likely to be absent when the pursuit is certain, reliable, and well under the control of rational methods and technological processes. Investigation should be made to discover whether there are other factors accounting for this discrepancy in attitude towards somewhat similar occupations; as, for example, whether in some cases the ritual is due to some foreign influence.

Magico-religious observances normally enable the performers

to carry out with confidence their most vital tasks and to maintain mental stability under circumstances which otherwise would demoralize them by despair, anxiety, fear or hatred. Observations on this head should be made in order to determine how far a given society is keen or slack in respect to its magico-religious observances.

(A) *Magico-Religious Practices*.—Magico-religious practices can be satisfactorily recorded only when actually witnessed, and every opportunity that occurs should be seized. But it is only by gaining the friendship of the older men that anything important can be obtained, for, however willing they may be, the younger men do not know everything and cannot have the background of experience and tradition that the old men possess. In no part of the field-workers' investigations is sympathy and gentlemanly behaviour more essential than in such inquiries. For a long visit he should plot out some sort of calendar and anticipate ceremonies that depend on the state of the crops, the movements of heavenly bodies, and so on. Occasional rites are not so easy to anticipate, but this may be done by intelligent use of native gossip. It is useful to discuss beforehand a ceremony which is expected to take place; one then finds out which part is considered essential to the native, as this is not always apparent even when one watches the whole ceremony from beginning to end. A great deal may be learnt by watching the preparations for a ceremony which would otherwise be missed. A ceremony or rite must be described, with full details, at the actual moment of occurrence, not after a lapse of time, however short. If there be several opportunities of observing a rite, they should be taken advantage of, and the whole rite should be fully described over again, with the object of putting even the slightest divergencies on record. In all cases, attention should be paid to the following points:—

1. Time and season, and connection with other activities.
2. Place and accessories.
3. Persons (noting name, age, kin, status).
4. Things worn.
5. Things used or destroyed.

6. Things said.
7. Things done.
8. Things noticeably omitted or avoided.

In addition to the concrete account of observed ceremonial it is essential that the importance and meaning of various items or incidents should be assessed by means of native informants, otherwise the insignificant and accidental elements will not be distinguished from the significant and intentional. All descriptions should be made as "objective" as possible. That is to say, the observer should not intrude into the actual account of what he has seen and heard any explanations of the meaning that he has read or imagined, much less any comparisons with our own practices, or with those of which the pages of the writings of comparative anthropologists are so full. Of course, he should record any native explanation, especially if voluntarily offered, and he is at perfect liberty to offer his own explanations and conclusions in their proper place, but he should keep them rigidly apart from his descriptions of fact. He should even be cautious in the use of descriptive epithets; thus it is better to write, "such and such a person said so and so," than "the following prayer was uttered."

Although certain rites may have an obvious economic bearing, it must be remembered that the sociological aspect is also very important. It is not only necessary to know who performs or assists in this or that, but why he does so. Great assistance in this is to be gained by studying the ground or house-plan, census and genealogies, which should have been made as complete as possible early in the recorder's visit. The position of a man in a genealogical scheme will frequently afford a clue to the reason for his performing a particular action, or perhaps that action may be performed by virtue of the rank of that person in some special society, professional guild, or other closed body; in such a case another kind of qualification is operative, which similarly requires elucidation.

Only when enough observations have been obtained should they be arranged in an order corresponding to that of the

general activities of the society. Such are tribal law and government; the functions of tribes and families; all rites (pre- and post-natal) connected with birth; education, including initiation; courtship and marriage; burial and the dismissal of the spirit; the food-quest; war; social activities of the less serious sort, such as games; the functions of groups, such as secret societies, and those of chiefs or medicine-men. Without this constant reference to the social conditions, the observer is certain to misrepresent the facts, by arranging them in an order that does not correspond to their real importance for the society concerned. For instance, it is quite fatal to take modern theological interests and terminology as the ground-work of the description. For this reason, an anthropological "questionnaire" is designedly omitted here. The real scheme of topics, then—and the only scheme that has scientific value—must be framed by the observer himself to suit the social conditions of the given people.

(B) *Magico-Religious Beliefs*.—The complementary portion of the observer's task is the inquiry into the beliefs at the back of the observed practices. The first thing to realize is that in a primitive society there is usually no such thing as a theology, or thought-out scheme of beliefs; and that by putting questions that rest on the assumption that such a theology exists, the incautious observer may unawares extract from the native a sort of mock theology, made on the spot, and divorced from the facts of his real life. The only safe rule is never to ask "Why?" but only "What?" For example, when the observer has seen a ceremony enacted before his eyes, he may with profit proceed to ask a native (preferably a leading performer, though it is usually necessary in his case to wait some time for him to recover from the effects of his excitement) to name exactly to him every nameable incident and object involved, and to describe the ceremony in his own words as fully as he can. Often this will bring out whatever conscious purpose and meaning there is in the rite for those actually concerned. Frequently there is also a sacred story embodying an account of the origin of the rite; and this story may explain the traditional and accepted sense of what

is done. It is immaterial for this purpose whether it has historic value or not. This sacred story may be an integral part of the rite itself, or a supplementary rite, or independent *v. Mythology*, p. 329.

Until complete sympathy is established, direct questioning of natives can only defeat the attainment of genuine results. The observer must watch quietly for the innumerable little signs that betray the general state of mind, and manage, as it were, to overhear the unspoken feelings and thoughts that attend on the savage when he is intent on his business. Naturally, when it comes to putting these things down on paper, the observer will be obliged to render his impression of the mental attitude of the savage in terms of civilized thought. Let him, however, take great care to discount the influence of the concepts and categories indispensable for himself as a student of the subject, which may be non-existent in the savage.

Stock Explanations.—The observer must specially beware of having palmed off on him the stock explanation (usually itself a traditional and settled affair) employed to satisfy outsiders. To be treated by those cognisant of the inner mysteries as a fellow-initiate is a privilege reserved for the few observers who possess exceptional experience, sympathy, and knowledge of the native language. It is comparatively easy to collect the popular stories that have lost such sacredness as they ever had; for, just as with ourselves, there is plenty of traditional matter in every savage society that has degenerated into mere tales, *v. STORIES*, etc., p. 327. To accept this evaporated matter as the living faith of the people—a mistake into which most casual observers fall—is to let slip the clue that alone leads to the inner life of the community. It is as if our civilization were judged by nursery tales about fairies and hobgoblins. It is, however, highly expedient to collect this material and present it under a heading of its own; for it may often yield valuable indications of present beliefs and of earlier stages of culture.

In this connection distinguish between genuine variations of belief and mere “blinds” deliberately palmed off on

inquisitive outsiders ; though the latter class of facts is worth recording also.

The Mental Outlook of Savages.—What is now to be said is intended to make the observer feel the full range and interest of his task in getting “at the back of the black-man’s mind.” It is merely an attempt to express the fact that savages do not think out their form of cult, but rather live it out.

The observer, then, in order to become a faithful interpreter of that inward meaning which the rite has for the savage mind, must school himself to hold fast, correspondingly, to two working principles. (1) He must regard as of chief concern the rite itself. Nothing outside it counts for much. There is, as a rule, little or no necessity to look beyond it to some more or less independent god who authorizes it, or to some piece of abstract doctrine it is meant to embody. (2) He must consider in all its detail the whole complex of conditions, the officiating persons, the sacred names invoked, the cult-objects, the decorations, the repetitions, the postures, the very time and place. All are almost meaningless apart from the rest, yet collectively they mean much for those concerned. Each is in the other and the other in each, so that to assign hard-and-fast parts and functions to priest and god, and victim and idol, and temple is to falsify the living sense of the magico-religious proceeding. These are effectively one, from the savage point of view ; and what makes them one, by embodying them concretely, is just the traditional rite itself.

In a minor way, with fuller evolution of tribal society (due in most cases to cultural contact) there gradually comes about a change in the direction of a system of abstract ideas—a theology. The observer may note, in their proper place, the signs of such a tendency. The need of trying to enter first of all into the concrete way of regarding magico-religious action must again be insisted on.

Such insight can be acquired only by mastering all the detail of the outward practice, and at the same time by keeping at arm’s length our own theological concepts, as well as our anthropological concepts, which are just as bad, since they have been framed by us to make us understand savagery,

not by savagery to enable it to understand itself. On the other hand, by working over the presented facts in the full wealth of their detail we may come at length to follow the associations that govern the savage mind—associations never abstract so much as concrete, that is, governed by the prime necessity of feeling and acting in accordance with an omnipresent social routine that is taken completely for granted.

Minor or Unessential Rites and Beliefs.—Finally, let it be repeated that, outside the body of rites, and beliefs implicated therewith, which forms the genuine cult of the primitive community and is of chief interest to the observer because it is normally the mainspring of the social life of the people, there will be found a scattered profusion of minor or unessential rites and beliefs, whose organic relation to cult is slight or non-existent, though, of course, they all go to make up the mental atmosphere or background. The observer must decide in each case for himself where the line is to be drawn between magico-religious facts, and such facts as fall rather under the categories of folk-tales, folk-medicine, games (*q.v.*) and the like. Unfortunately, it is just these outlying (though by no means uninteresting) matters that obtrude themselves on notice; whatever is most precious to the savages concerned is most carefully hidden away.

Method.—Always endeavour to take down a verbatim report of the native account of a rite. This report should, if possible, be reproduced in the original tongue, with a literal translation added. Note that in the actual *formulae* which are held sacred, the sense of the words will often be found to have been lost by the natives themselves. In this way, the observer may gradually build up a vocabulary of words and phrases appropriate to describe magico-religious facts. By the aid of these native terms, he may gradually classify the facts, discarding the misleading associations that are bound up with our own terminology. A native is prone to give a term that he believes will be understood by his interrogator, such as “devil-devil,” “god,” etc.—this should immediately be disclaimed and only the native word be adopted.

Suggestions for Inquiry.—The following are only meant to

call the investigator's attention to some lines of inquiry ; there are many others, and he should not attempt in the slightest degree to make what he discovers fit rigorously into these categories. The terms are those that are generally accepted by students at home, but they should never be used in talking to natives ; the vital thing is to obtain, and use, the native terms for these and analogous categories. In your notes avoid, as far as possible, a *classification* of native words on European lines. But remember that the absence of a native *term* does not necessarily mean the absence of a native *idea* or *sentiment*. And in every case the native terms for any of these or of analogous categories should alone be employed.

Terminology.—Thus, by way of illustrating how native categories may differ from ours there is among some peoples, especially in Indonesia, a belief in what has been termed *soul-stuff* or *soul-substance*. This term is used for a more or less personal entity, and for an impersonal principle or essence. In the personal manifestations it can separate itself temporarily from the body during life, as in dreams, if absent for a limited time the person falls sick, if this is prolonged, he dies. It permeates the whole body and even objects in contact with the body. We may regard an idea of this sort, even though it may not be expressly recognized by the natives, as the basis for customs with regard to hair, nails, or excreta ; these are permeated with soul-substance, and when separated from the person can be acted upon to that person's detriment. Even clothes worn, or objects handled by, a person can become charged with that person's soul-substance, and thus can be used for magico-religious purposes. Animals, plants, and inanimate objects also possess soul-substance, generally in the form of a vague impersonal principle and this can be transmitted to other creatures or objects.

It is customary to limit the term *soul* to the separable personality of the living man or other being, but in some peoples there seem to be more than one ; *ghost* to the same thing after death ; *spirit* to a soul-like being which has never been associated with a living human body. *Soul*, *ghost*, and *spirit* are all essentially of the same type, each representing a personality

independent of a body, though usually possessing an apparitional form of its own. Some writers term all these as *spirits*. The fate of the spirit of a dead person should be investigated (*cf.*, DEATH, p. 112); where it goes to, temporarily or permanently; whether it is reincarnated, and how (*cf.* p. 113); whether it may temporarily inhabit another person, "possession."

In some ways analogous to soul-substance is the *mana* of Oceania which, in the native theory, is at the base of magic, and by which all unusual success is attained, though ultimately the power appears to be attributed to the aid of personal beings, ghosts or spirits. All men do not possess *mana*, but only the specially fortunate and gifted. The *orenda* of the Iroquoian tribes of North America is a much more universal power, and it is possible to acquire the *orenda* of the imaginary personalities who are believed to influence or control the affairs of men. Look out for any ideas such as the foregoing, since they deserve very careful investigation; the local name should alone be used, so as to avoid confusing it with something which has been described previously but from which it may differ in important ways.

Animism is "the belief in spiritual beings" (E. B. Tylor), using "spiritual being" in the sense of an indwelling personality capable of leaving the body or other physical abode and manifesting itself as a phantom.

Animatism is the attribution of life and personality to things, but not of a separable or apparitional soul.

The term *Fetichism* has been used in so many different and contradictory senses that its use should be avoided. It should be used, if at all, in its historic sense, to describe the West African *fetich*. This is a carved human effigy or other object which is prayed to or sacrificed to only when it is supposed to be the temporary residence of some spirit or god, whereas otherwise no regard is paid to it. There are several varieties of this belief.

Totemism, p. 76, is as much a religious as a social institution. There are many forms, all of which require careful

investigation, especially those in which a *manes-cult*, *hero-cult*, or *god-cult* has been grafted on to it.

Spirit-Helpers.—*Sacred Animals, Plants, and Inanimate Objects*:—Certain animals may be treated in such a manner as to imply that they are regarded as sacred, or at all events that they are in a different plane from others. This does not necessarily imply Totemism, nor that they are regarded as *Animal-Helpers*. To some extent this may apply also to plants. There are many plants which have a very close relation with ritual, the significance of which should be carefully investigated. Particular stones or other inanimate objects are often regarded as sacred, and it is important to discover whether this sanctity is inherent or due to a temporary or permanent association with some spiritual being. The simplest form of a *familiar* is an *animal-helper* as in Australia. *Spirit-helpers* are known in Borneo and elsewhere, and widely spread in America is the belief in a *guardian-spirit*, often known in North America by the name of *manitu*.

Cult of the Dead or Manes-Cult may be very rudimentary, but all aspects of it should be recorded. Spirits of the dead may be both loved and feared at the same time; the reasons for these sentiments and the resultant form of the cult should be noted. For shrines and memorials of the dead, cf. p. 120. This cult usually takes the form of an *ancestor-cult*, which may develop into a complicated *ancestor-worship*.

Hero-Cult.—Widely spread is the tradition of heroes who are credited with the introduction of new or better ways of doing things; often no cult is associated with the *culture-heroes* when they are regarded as merely men. When a hero is associated with war a cult begins to appear, and this is prominent when the hero or heroes are associated with death or initiation ceremonies, and such a hero may gradually develop into a worshipped "godling" or even into a "god."

The term "*god*" is so vague and is employed in so many senses that it is best avoided altogether, unless the precise use is defined at the time.

The use of the term *idol* should certainly be avoided and the native term alone employed. A carved human figure may

have nothing whatever to do with religion but be purely of sociological significance, or it may be solely "magical." Effigies or other objects among some peoples may be regarded as affording a temporary abode for a god, or may simply help to visualize an ancestor, hero, or deity.

Anthropomorphic should be limited to outward human shape, not used to describe the attribution of human behaviour or thought. Similarly the terms *Zoomorphic*, *Phytomorphic*, *Hylomorphic*, mean respectively that something is conceived or represented as having the outward shape of an animal, a plant, or inanimate object (*cf.* DECORATIVE ART, p. 288).

Rite.—A customary practice of a magico-religious character. (The word *ceremony* has lost this special sense, but it may be employed.) The rite may consist of a number of ritual acts.

There may be a *negative side to ritual*, consisting in refraining from doing things for magico-religious reasons, as well as a positive ritual.

Prayer should be used in the sense of petition, and not used to cover every sort of oral rite, such as praise or thanksgiving.

Spell.—A spoken rite intended to bring about a desired result by magical means.

Incantation.—A spoken rite intended to give power or efficacy to a person or thing.

Sacred may be used of all persons, things, or actions set apart for magico-religious reasons from the *profane* or *secular*.

Sacrifice.—Any rite of consecration by which something is removed from secular use and devoted to a sacred use, this, as in the case of the blood-sacrifice, often involving its destruction. The object of such a rite may be to bring about communion or atonement, to make a gift, to honour, and so forth; and so far as this motive is clear to those concerned, it should be noted. If the offering is of food the whole or part of it may be eaten, if so, by whom? Offerings which can scarcely be distinguished from sacrifices are made in connection with the cult of the dead (*cf.* Grave-Goods, p. 117, and Treatment of Property, p. 118, etc.).

Offerings may also be made to natural objects, to unworked stones, or stones rudely carved in human or other form, to

wooden images, etc. The exact nature of these offerings is often obscure and seems to presuppose some power resident in or connected with such objects ; these rites need special investigation.

Taboo should be limited to describe a prohibition resting on some magico-religious sanction. It should be noted how the breaking of a taboo is punished.

Various other prohibitions are observed in uncivilized society ; e.g., *Legal Prohibitions*, put forth by authority, and *Customary Prohibitions*, which appear to rest simply on social disapproval ; but these are not *taboos*.



MATERIAL CULTURE

RITUAL IN TECHNOLOGY

It is important that the study of the artefacts and material culture of a people should not be viewed solely from their material aspects. Amongst all the peoples of lower culture, and even persisting to some degree amongst those of the higher cultures, we find an organic connection of ritual practices with the arts and crafts of daily life. Indeed, the practices are considered to be as essential to the industries as are the technical processes themselves, and therefore it is as necessary to record the one as the other. Most, if not all, of the more important ceremonies which are usually regarded by students as being socio-religious in character, and are described as such, have also a distinctly practical aim; they serve not only to maintain and increase social well-being, but frequently they have a definite purpose in causing the increase of crops, or success in hunting, fishing, and warfare. Therefore every description of the occupations of a people must take note, not only of their material aspects, but also of the minor ritual acts and the major ceremonies. The attitude of the people towards these psychical aspects should be noted and recorded, and their supposed effect on the practical operations. In some cases it will be found that the rites are merely formal and without any appreciable emotional content, and thus are beginning to be survivals of the same nature as many of the items in the folklore of more cultured communities. Further, the myths and folk-tales connected with any occupation should be recorded, as they may throw light upon the significance of the ritual or upon the history of that occupation. It sometimes happens that particular plants are cultivated with much more ritual than others, some without any at all, and an endeavour should be made to discover which are so treated and why. Whereas there may be relatively little or no ritual

in the building or the opening of ordinary dwelling-houses, that of the "men's houses" and other ceremonial structures may have a very rich and profoundly significant ritual; the same distinction applies to the construction of ordinary small canoes and the large kinds used for fishing and war; and so with other industries; or again, the ritual may be confined to an implement or to its manufacture, but not to the things made by the implement.

For the sake of convenience the various arts and crafts and appliances are severally considered in separate sections of this book, since technology has its own problems and its own importance. It must not be forgotten, however, that implements and weapons are made for the carrying out of operations, and that ritual may be intimately involved in the manufacture of the appliances as well as in the operations in which they are employed. Reference to arts and crafts and artefacts in mythology and folk-tales may depend for their interpretation upon an exact knowledge of the structure and function of an artefact, as well as upon a knowledge of existing ritual practices in connection with its manufacture or use. A balanced study of the technology of a people must take account of the material, the ritual, and the psychological aspects.

There are times when the investigator of socio-religious matters may find that he cannot get information, and he will then find that a study of material culture provides him with a convenient avenue of approach. It is, in fact, advisable, as a matter of policy, to begin with such a study, leaving the investigation of the more inaccessible socio-religious questions until such time as the suspicion of the people has been allayed and their confidence secured.

STATUS OF THE CRAFTSMEN

In the simplest societies every individual can and does perform all the secular activities characteristic of his community, except so far as there may be artificial restraints on his so doing, and as a rule he can make any of the implements he

requires ; but, even so, there are usually to be found men who are more expert than others. Thus, in some societies, this expertness gives rise to special craftsmen ; or certain men may in their spare time specialize in certain crafts. Where special craftsmen are found it is necessary to make careful inquiries as to their status, and how they are paid. Iron-workers in Africa may form a despised or pariah class, or they may have special privileges and position. Canoe-builders, or other carpenters, may have a high social status. These craftsmen should be considered from economic, social, magical, religious, legendary, and mythological points of view.

PERSONAL ENHANCEMENT

It is characteristic of man habitually to reinforce and enhance his natural qualities by artificial means. He takes pains to maintain his person in proper condition ; he enhances, disguises, or alters peculiarities of personal appearance, such as feature, complexion, and growth of hair ; he decorates himself with personal ornaments ; and covers himself with clothing, to protect him or to distinguish him from his fellows.

CLEANLINESS

Personal cleanliness, the standard of which varies greatly, seems to be a tribal characteristic, and is often quite independent of the accessibility or scarcity of water. Note should be taken both of performance and omissions. Do the people wash themselves habitually, at regular times, before or after eating, before or after formal acts, such as visits, or on ritual occasions ? How do they clean their teeth ? Have they regular bathing or washing places, a distinct apparatus for washing ? Do they use *soap*, or any substitute for soap ? How is this prepared ? How do they dispose of the water in which they have washed ? Record all characteristic acts and gestures. Do they rub their body with oil or fat, or smear it with fine ashes ? Is the purpose

of such customs to keep the skin in good condition, as a protection from insects, or from external parasites ?

Most, if not all, peoples have a recognizable odour, more or less well-marked, and some peoples are more sensitive than others to such odours. It is well to remember that to some peoples the natural odour of Europeans is quite as offensive as that of some natives to European travellers. It is impossible to describe odours. Are the people aware of their own odour or that of others ? Is the odour of clothing or implements used as an indication of ownership ?

Perfumes.—The natural odour is often disguised by the use of perfume, either intentionally or as a consequence of the odour of unguents, paint, or other cosmetic. Perfumes and the wearing of scented substances are frequently employed to enhance sexual attraction. Note should be taken of the substance which is used ; its name, preparation, purpose, and mode of application. Samples should be obtained if possible, and should be preserved, like all other native products, in air-tight bottles or cases, if there is any fear of evaporation or decay, or if of an organic nature in formalin or spirit.

Sanitation.—Other sanitary observances should be noted with the same care as personal ablutions. Are the houses and their surroundings, streets and other public places kept clean ? If so, by whom ? What is done with dirt and rubbish ? What provision, if any, is made for the disposal of excretions ? Are there public or private areas set apart for daily use, or are there public or private latrines ? Are the children taught cleanly habits, or left to themselves ?

PERSONAL APPEARANCE

Quite apart from cleanliness, are the people careful of their personal appearance ? In particular, do they modify in any way their natural appearance ? If so, what reason, if any, do they themselves give for what they do ?

Hair-dressing.—This is one of the commonest modes of enhancing or altering the personal appearance, either for convenience or for ornament, or to distinguish individuals,

sexes, or social ranks, such as married or unmarried, chiefs, officials, and private persons. In every case the practice should be carefully observed and described before questions are asked as to the reason for it. In what way is the hair dressed? Hair is sometimes felted into more or less permanent shapes of traditional style. For this purpose hair shaved off the head of another individual is sometimes worked in to increase the bulk. Is the additional hair bought, or given by relatives, or inherited? Is the hair allowed to grow to its full length? If it is cut, what becomes of the cut ends? Is the hair partially shaved off, such as above the forehead, or so as to leave patterned tufts of hair, or a tonsure, etc.? Is it totally shaved, or cut very short? Are these practices associated with age, status (such as marriage), mourning, or religion? Who cuts or shaves the hair, and what implements are used? Is the hair plaited, twisted, or curled into ringlets? If so, by what means is it kept in place? What ornaments are worn in the hair, such as combs, pins, beads, feathers, or flowers? Are *cosmetics* used, such as oil, grease, or clay? Is the hair intentionally or unintentionally coloured? If the former, what methods are employed, and why? More or less bleaching of the hair may be the result of substances used to kill lice; this should be inquired into. To what extent does swimming in the sea affect the hair? Are *wigs* in use? Do the natives wear beards or moustaches? If the face-hair is not worn, is its absence due to natural causes, or to depilation, or shaving? What reasons are assigned for removing face-hair? How is depilation effected? When a beard or moustache is worn, is the hair allowed to grow naturally, or is it cut into shape? Does depilation or shaving of any of the body-hair occur, and, if so, why?

Nails.—Most peoples trim their finger-nails regularly, and some the toe-nails also. Others perforate or stain them. If stain is used, note the colour and the material used for staining and obtain a sample of it. What becomes of the nail-parings? If the nails are allowed to grow, what reason is given?

Teeth, p. 194.

For the magico-religious attitude towards parts of the person separated from it, such as hair, nails, teeth, excreta, and even clothes, *v.* RELIGION, p. 182.

DEFORMATIONS

It is a widespread practice to mould the body in accordance with some preconceived ideal of beauty, or for some reason based on religion; or by some surgical operation to provide for the attachment of some ornament which may alter the normal shape of the organ to which it is attached. It should be ascertained whether deformations are performed on both sexes, or on one sex only; whether they are common to the whole population, or peculiar to a certain rank or professional class.

Particular pains should be taken to discover the native reason for such practices; whether the alteration of form so produced is accidental or designed; whether an alteration which is now regarded as the end to be attained was once only an accidental consequence of wearing a particular article of clothing or ornament; whether a given form of deformation exaggerates a natural tendency characteristic of the tribe or people under observation.

For questions as to the mode of operation, the status of the operator, and the significance of the practices, see General Questions at the end of this section, p. 199.

Cranial Deformation.—The head of the new-born infant, being largely membranous, may easily be moulded into a form often markedly different from the normal. Head deformation may be divided under two main headings:—

(1) *Accidental.*—For example, a decided flattening of the back of the head may be caused if the child lies in a cradle with a hard base, or is fastened by swaddling bands to a board; or the head may become asymmetrical from being laid to rest continually on the same side or nursed on the same arm; or, again, the shape may be modified unintentionally by the use of a tight form of head-dress, producing a flattening of the forehead, or a conical form of occiput, or both.

(2) *Intentional*.—Deformation is effected (*a*) by simply moulding the head of the child with the hand ; (*b*) by the use of bandages ; (*c*) by the use of one or more boards or pads applied to the head by means of bandages ; (*d*) by the use of a particular form of cradle, or of some appliance affixed to the cradle.

The first of these methods, which is often practised, has, probably, but small effect upon the ultimate shape of the skull ; but the other three give surprising results. Note the nature of the appliance, the method of affixing it, the length of time for which it is affixed, the ages at which it is applied, and abandoned, and the form which is ultimately given to the skull. Photographs, drawings, and measurements should be secured.

Well-known types of cranial deformation are (1) flattening of the forehead, with or without increased projection of the occiput ; (2) flattening of the occiput with an increase in height or width of the head ; (3) flattening both of forehead and occiput, combined with marked increase in breadth ; (4) conical or cylindrical lengthening of the occiput or of the crown.

Note the effects, if any, produced by Cranial Deformation on the health or on the mental or moral qualities of the subject. Have the natives any opinions on this practice ?

Facial Deformations affect chiefly the nose, ears, cheeks, lips and tongue.

The *nose* is most commonly deformed by (1) simple moulding of the infant's nose by the mother or nurse, either with a view to depress it or to render it more prominent ; (2) piercing of the nasal *septum* ; (3) piercing of one or both *alae* ; (4) making a hole in the *tip*.

If ornaments are worn in or on the nose, note their material, form, dimensions, and weight, together with the mode of inserting and securing them by plugs, hooks, rings, wires, or thread, and any possible effects they may have in modifying the shape of the organ. When are ornaments first inserted ? Once inserted, are they fixed or easily removable ? Are they of graduated sizes as the wearer grows older, or are they

inserted at once of the full size ? Is there any method of mending the nose if it should be torn ?

The *ears* are often pierced with one or more holes, either in the lower part or *lobe*, or in the shell-shaped *helix* or upper part. Ornaments may be worn in the holes or attached to the ear by means of them. Sometimes the size or weight of the ornaments is gradually increased until the aperture or apertures are remarkably distended. The following points should be noted :—(1) The number and position of the punctures ; (2) the material, form, dimensions, and weight of ornaments worn in, or attached to, the ear, the method by which they are attached, and their effect, if any, on the ear ; (3) methods of increasing the size of the apertures ; (4) methods of repairing the ear, if by chance it becomes torn ; (5) whether the ear is ever torn intentionally ; and, if so, for what motive ?

The *cheeks*, *lips*, and *tongue* are pierced likewise, and ornaments are sometimes worn in the holes. State distinctly whether observations refer to the upper or lower lip, or both.

Dental Deformations.—There are four methods of treating the teeth with a view to the enhancement of personal beauty:—

(1) *Colouring.*—Note the colour used and, if possible, obtain a sample. How is it prepared and applied, and to which of the teeth ? Distinguish accidental colouring or incrustation due to betel-chewing or diet.

(2) *Inlay and Incrustation.*—Note the materials used, the method of preparing them, the manner of drilling the tooth, and the method of affixing the inlay, incrustation, or plating.

(3) *Chipping and Filing.*—Note the implements and methods. Secure photographs and describe the result in diagrammatic form, showing which of the teeth are treated.

(4) *Extraction.*—Note the number and position of the teeth extracted, the method of extraction, the instruments employed, and the subsequent treatment of the patient.

The operation of chipping, filing, or extraction of teeth may be performed on individuals or upon groups of young people of either sex. Inquiries should be made as to whether the persons operated upon at one time, form any kind of social

group. All ceremonies associated with the operations should be recorded.

Deformations of the Limbs and Trunk.—The limbs are sometimes modified by one or more of the principal methods: (1) by constricting the limb by means of tight bands or heavy ornaments; (2) by compressing the extremities by means of bandages (as the Chinese deformed the feet of the women); note also deformation due to rings or toe-rings, ill-fitting shoes, and sandals which are gripped by or between the toes; (3) by amputating one or more fingers or toes; (4) by allowing the nails to grow untrimmed or by piercing them for the attachment of ornaments, *v. Nails*, p. 191. Careful note should be taken of *callosities*, *wrinkles*, or other undesigned deformities due to habitual postures or occupations, either of a whole people or of the members of particular classes of industries.

The *breasts* of women are sometimes modified so as to produce an elongation of the nipple or of the whole breast, usually by simple manipulation or by bandages, or both. Note the purpose of such practices.

The *waist* of men or women is sometimes compressed by a simple band or by some more elaborate apparatus corresponding to a corset.

The *hands*. Sometimes objects are continually held in the hands or rolled between the fingers with a view to giving a definite shape to the hands.

For other modifications of the limbs and trunk, *v. Tattoo*, p. 196, and *Cicatrization*, p. 197.

Deformation of the Genital Organs.—The penis may be deformed by *incision* of the upper layer of the foreskin (prepuce), in which case the latter may form an irregular projecting mass beneath the glans; or the whole foreskin may be removed, *circumcision*. The glans may be perforated for the insertion of a foreign body, or foreign bodies (stones or gems) may be inserted under the skin of the penis. Part of the urethra may be slit open, *sub-incision*, the so-called *mica* operation. There may be total or unilateral *castration*. In the female, the labia may be lengthened by manipulation, or by other means. Some contrivance may be attached in

such a manner as to prevent copulation, *infibulation*, or the desired result may be caused by *excision* of almost the whole vulva including the mons, scar tissue being formed so that only a small posterior orifice is left, or the labia may be scarified or sewn up and caused to adhere together; in both cases an incision is necessary before the consummation of marriage. The commonest operation in the female is the excision of the clitoris. Describe any varieties which occur in any of the above, the mode of performing the operation, the implements employed and the social status of the operator.

It is particularly important to ascertain the ideas in the native mind about the origin and purpose of every deformation of this kind, and to record all ceremonies preceding, attending and following such operations, as well as the age at which they are performed. If possible, observations should be made on the effect of such practices on the frequency of conception.

DECORATION OF THE SKIN

The modes of decorating the actual surface of the person may be classified under: Painting, Staining, Tattoo, and Cicatrization. The older writers often confused cicatrization with tattooing, and some modern writers are equally remiss.

Painting includes all modes of decoration by means of coloured substances (powder, mud, lime, etc.), or definite pigments laid upon the surface of the body which do not permanently discolour the skin itself.

Staining affects the colour of the skin itself more or less permanently. Local differences of pigmentation, due to sunburn or individual complexion, are sometimes so marked as to be mistaken for artificial stain. The nails of the fingers and toes may be stained.

Tattoo, properly so-called, consists in pricking pigment into the skin, leaving a smooth even surface. *Moko* consists of grooves in the skin produced by a small chisel or adze-like implement, and pigment is rubbed into the groove. *Kakina* is produced by a needle and thread covered with soot being drawn through under the skin; the point of the

needle is rubbed by the Eskimo with a mixture of the juice of *Fucus* and soot, or gunpowder. Note the nature, method of preparation and mode of application of the pigment or pigments. Is any stamp employed to print the design on the skin? If a certain colour prevails, is this due to actual preference for this colour, or to the fact that this particular pigment is more easily obtained? Are the pigments imported; and, if so, whence? The technique and instruments employed should be described.

Cicatrization is effected by scratching, cutting, piercing or burning the skin, or otherwise causing the formation of scars. The wounds may be allowed to heal naturally, forming plain scars, which are usually slightly depressed; or they may be aggravated so as to form deep gashes; or raised scars called *keloids* may be produced by continued irritation of the incisions, by the insertion of foreign matter, and the resultant proliferation of regenerative tissue. Is any form of ornamental scar (*moxa*) produced by the application of some caustic material; and, if so, are the resultant scars permanent or temporary? Describe the method of producing keloids and the irritants employed. Are foreign bodies inserted in the wounds or introduced under the skin? Is pigment introduced into the wounds? What is the colour of the scars as compared with the surrounding skin? Care must be taken to distinguish between intentional scarification, and the scars which are incidental to cutting or burning as a sign of mourning, and those resulting from cuts, punctures, burns, etc., which are made to relieve pain; in all cases the implements employed should be described.

There is so much in common between these four groups of skin decoration that the following remarks may apply to any or all of them. A person may be both tattooed and scarified, and on occasions may be painted as well. As a general rule, scarification is confined to those with very dark skins, and tattooing is employed on skins which show up the designs. At all events in recent years, designs may be borrowed from other peoples, and those who formerly only scarified have been known to adopt tattooing as well; where these are both

employed inquiries should be made on the subject, and the original source of all designs should be noted.

Is the operation completed in one stage or in several? In the latter case what portions of the body are ornamented at the several stages, and what are the periods of life at which the various stages are performed? Is the ornament confined to any particular part or parts of the body? Is it the same in both sexes? Does the design in general emphasize and enhance the natural features and contours of the body, or give it an independent scheme of composition, pictorial or conventional? Are any designs or details of designs peculiar to any portions of the body? Is the design sketched out on the body beforehand, or is any pattern used as a guide to the operator? Does the design seem in any way to be in imitation of ordinary personal ornaments?

Collect native names, with their meanings, of all designs or details of designs (*cf.* DECORATIVE ART, p. 288). Note whether any marks on an individual signify his rank, caste, trade, clan, tribe, or religion, also whether certain classes, such as criminals or prostitutes, are habitually tattooed, etc. Very little is known about tribal marks in the true sense of the term. In the case of clan marks, do they represent a totem, and is this indicated realistically, or conventionally, also what reasons are assigned? Is the design, or any portion of it, hereditary or peculiar to the individual? May designs be exchanged or temporarily adopted by those not entitled to them permanently? May a design indicating some special renown be also made on the man's wife or child? Note the significance in all cases where group or individual designs occur on objects and artefacts, (*v.* RECOGNITION MARKS, p. 201). Endeavour to discover the meaning of all forms of personal decoration, and whether their significance is social (to stimulate physical development, to indicate puberty, completion of marriage contract, number of children, death, mourning, membership of a secret society, as a sign of prowess, homicide, etc., or before undergoing a dangerous enterprise), or magico-religious (for good luck, as a love charm, for amuletic, prophylactic or other "magical" reasons, to indicate kinship with a totem, dedication

to, or assimilation with, a deity, to benefit the individual in the after-life), or whether the decoration is simply ornamental (to enhance or preserve bodily charm, or to prolong youth by repeating the operation). The observer will very frequently be informed that decoration is purely for this last purpose when there is every reason to believe that it has a deeper meaning. Where colour is employed, note whether it is or is not symbolic (*cf.* DECORATIVE ART, p. 288).

It is most important that sketches of designs and patterns should be obtained, since these are of far greater value and less troublesome than a description. (A series of figures and limbs in outline for recording skin decoration may be obtained from the Royal Anthropological Institute.) It is usually very difficult to photograph tattooing even when isochromatic plates and a screen are employed; it is usually necessary to paint the pattern accurately with a black pigment.

General Questions.—The following queries may be taken to refer to any of the foregoing methods of deformation, mutilation, or decoration of the skin :—

Function, Origin, and History of the practice in native belief.—What is the alleged reason for the practice, and what is its alleged origin? Give any legends connected with it. Is it purely ornamental, or social, or religious in character? Does the operation form any part of an initiation ceremony? Is there any trace of the operation having been customary in former times and having now become obsolete? Is any reason given for its disuse? Is the operation still performed in full, or partially, or ineffectively, or in mere show? Is any such practice spoken of, but not found in general use, or supposed to be practised secretly? What is thought of those who practise it? Can any of these practices be traced to foreign influence?

The Operation.—Describe the process as minutely as possible, giving native names for all processes, instruments, and other details, *v.* SURGERY, p. 347. If some portion of the body is cut off, state what is done with the severed part; and if the operation involves the shedding of blood, whether there is any special custom with regard to the blood shed.

The Patient.—Is the operation peculiar to either sex, or to any state, rank, caste, trade, clan, tribe, or cult? Is it performed at any particular age or within any limits of age? Is the operation ever performed on the dead? Does the patient undergo any preliminary treatment (seclusion, fasting, purification, etc.)? Does the patient undergo the operation alone or in common with others? If the latter, note on what system the patients are grouped, whether any particular bond is supposed to exist between them subsequently, and its nature. Is any special dress or ornament worn by the patient? Is any name given at the time or subsequently? What is the subsequent treatment of the patient (exemption from labour, special food, etc., independent of any regulations or taboos connected with a puberty ceremony)? Is anything done to heal the wound? If the idea of ceremonial is attached to the patient at any period, state when, its nature, and the purificatory ceremonies. Do those who have submitted to the operation have any privileges which are denied to the rest? Does an individual who has not been so treated suffer any disabilities, real or imaginary, as regards marriage, hunting or fishing, particular foods, burial, future life?

The Operator.—Must the individual who operates belong to any particular age, sex, caste, trade, clan, tribe, or religion? Must he stand in any definite relation to the patient? Does he enter into any relationship with persons on whom he performs the operation? Must he undergo any preliminary ceremonies or observe certain taboos? Has he any special place or status, either at the time of the ceremony or generally? Is he regarded at any time as ceremonially impure, and, if so, what purificatory ceremony is undergone? Describe his implements; are they used for this purpose only and what becomes of them after use? Does he receive payment for his work and from whom? Describe all ritual connected with any type of deformation.

PERSONAL ORNAMENTS

Many peoples, irrespective of the amount or absence of clothing, wear ornaments which may be attached to any portion of the person. With equal opportunities for procuring ornaments there may be considerable variation in the actual wearing of them. The distinctive ornaments of neighbouring peoples should be observed. Are the people ready or unwilling to adopt new types of ornaments? Ornaments may be stated to be solely for decorative purposes, but even so very many have, or have had, a "magical" and protective significance, and thus are *amulets*; *talismans* are worn for good luck. Some represent the reserve of wealth and are readily traded. Others are signs of social status, and when worn only by officials in virtue of their office they may be termed *insignia*, but this term may also be employed for definite ornaments which can be worn only by those who have performed some noteworthy feat, such as homicide, or by those who have proved themselves successful warriors or hunters. Ornaments are so frequently associated with social or religious events that a description of them is appropriately made when describing those events. Special note should be taken of the *wearing of flowers or feathers* and other objects of natural beauty, in which case the kind and colour should be recorded. *Beads* of all kinds deserve particular attention. In every case note any reasons which may be given for wearing ornaments. Have any ornaments a known individual history?

RECOGNITION MARKS—TRIBAL AND PERSONAL

Various forms of deformation, more especially marks on the skin, such as cicatrices, tattooing, or painting, may be made in order to identify the individual, apart from those which have a magico-religious or aesthetic significance, and thus they have a social meaning. In some cases totem representations, conventions, or symbols indicate the clan of the individual, and may thus serve to warn from incest. In other

cases the marks may have a tribal significance. In many cases the natives affirm that the marks are solely for decorative purposes, but this statement should be critically examined as it may be made solely to mislead the inquirer, or because the significance of the marks may have been forgotten. Distinguish the marks indicating different kinds of social grouping: the clan, caste, occupation, tribe, and so forth. Give the part of the body on which the designs are placed, and make photographs, careful drawings, or tracings.

Many people mark or deform their bodies in various ways, and wear peculiar and distinctive clothes, ornaments, or badges, and it is important to discriminate between those decorations which are purely individual, and those which have tribal significance. Care must be taken not to mistake for social marks any signs of mourning, cuts made for sickness or pain, marks indicating age, age-grade, sex, or local transient fashions of a particular district, hair-dressing, clothes, ornaments, or other decoration. Difference in technique or artistic feeling may characterize different tribes without these being intentional. Warriors on the war-path are usually distinctively coloured, or have weapons, head-dresses, and other ornaments which differ from those in use on other occasions; if so, why? Sometimes the chief intention is to distinguish the opposite sides. If so, are there individual variations which nevertheless keep to one common type? Collect all the variations you can, and endeavour, with native aid, to trace out the sequence of them.

If animals, trees or other natural objects are marked, do those marks indicate personal or collective property? Endeavour to trace the signification of all marks.

Marks or patterns of some kind or other are sometimes made on weapons or domestic utensils to denote the owner or maker. Thus a distinctive mark on an arrow will indicate its owner, and establish a claim for the killing of game, etc. Pottery-makers may imprint their individual signs or patterns on their ware, which serve to distinguish their particular make. Care must be taken not to confuse such marks with others that have a different significance, as for example, tally-marks on

weapons which denote the number of persons killed with that weapon; in one sense these are owner's marks, but they do not serve to distinguish one owner from another. It is obvious that when a man decorates a personal belonging with designs of various kinds these serve to identify the ownership, and not infrequently one or more of them have this definite purpose.

CLOTHING

Do one or both sexes go entirely nude? The term clothing covers the range from a mere band to a multiplicity of articles of dress; thus *clothing* may consist of one or more *garments*, or of particular kinds of *dress* or *costume*, where the quality and shape of each garment or article is determined by secondary uses, as for instance to mark the social, political, or religious rank of the wearer, or the particular act or occupation in which the person is presumed to be engaged while wearing it.

There is considerable variation in the idea of what part of the person it is indecent to expose. Some people when given clothes do not think of wearing them so as to cover the genital region, but they soon adopt the custom if derided by a neighbouring clothed people, or when they are likely to meet strangers, though they may revert to their own habits when by themselves. Some women, for instance, consider it more necessary to cover the mouth in public than the genital regions.

Every article of dress wherever it may be worn should be considered from the point of view of whether it is worn from a sense of shame, or for decency, for "magical" protection, for religious motives, for warmth, as a protection from the inclemency of the weather, or to attract attention and enhance sexual charm.

Among some peoples there is merely a covering for the genitals; in such cases there may be a covering of a shell or gourd, or a perineal band, a small piece of fabric, a fringe, or merely a leaf or leaves. In the case of the men, does the article cover only the free end or the whole of the penis, or all the

organs? Does the removal of the covering of either sex, however small or restricted it may be, give rise to a sense of shame?

The significance of wearing *belts* should be inquired into, and the tails or other objects which may be inserted into or suspended from belts. Are belts, armlets, etc., worn for themselves, or to secure other articles of clothing, or to sustain objects, or to act as receptacles for small objects?

Forehead-bands, *head-coverings*, and *veils* (face and mouth-coverings) require special attention, whether worn by men or by women, and whether they have ritual significance. What special precautions are taken for protection from the sun and weather? Are sunshades carried? Is anything worn to protect the eyes? What head-dresses are worn in social events, war, and in rites? Is the use of a head-covering obligatory, or forbidden to either sex, to any class, age, or social status, and why?

Are *gloves* or *shoes* or *sandals* worn? Of what materials are they made? how are they fastened? are they worn habitually or only on occasions?

So varied are the details of perineal bands, fringes, belts, loin-cloths, petticoats, pants, and other garments and costumes that no enumeration of them can here be made. Actual examples of all characteristic garments and complete costumes should be secured, with precise details of their use and the rank and occupation of the wearers. Photographs, drawings, paper-patterns and native-made models, and descriptions are necessary when the garments themselves cannot be obtained. Particular attention should be paid to all decorations of garments, and their significance noted, *i.e.*, whether purely aesthetic, "magical," religious, recording exploits, illustrating traditions, etc.

It should be noted at what age either sex adopts certain articles of clothing, and whether the first wearing of clothes is accompanied by any ritual. Do any garments incidentally or intentionally deform any portion of the body?

Manufacture.—Information should be obtained of what materials clothes are made, whether native or imported, what

parts of animals or plants are used (*cf.* SKIN-DRESSING, BARK-CLOTH, WEAVING, pp. 261, 263, 266), how they are worn or draped, the method of fastening a garment or the parts of one, whether a perforated needle is used or the thread passed through a hole, the kind of thread, and the process of sewing. Are the clothes made by each individual or family, or are there recognized makers of clothes?

Use and Significance.—Is there anything which corresponds to “fashion” in clothing? All variations in clothing should be noticed, whether according to the season of the year, for festivals, for indoor or outdoor wear, for everyday occupations, for keeping off the rain. What clothing is worn at night? Are any costumes or articles of dress peculiar to social groups, trades, localities, or for normal or infamous occupations? The garments worn by warriors, medicine men, priests, and all persons in authority should be described, and it should be noted whether these distinctions are enforced by law or by custom only. Does any clothing serve the purpose of armour? What importance is attached to the *regalia* or other *insignia*? Is any addition made to the dress of a man who has killed an enemy or some formidable animal? (*cf.* PERSONAL ORNAMENTS, p. 201). Are any portions of clothing removed on saluting or visiting a superior or a sacred place? Are clothes destroyed after sickness? What becomes of the clothes after the death of the owner?

HABITATIONS

This section includes all forms of shelter and dwelling-place, whether temporary or permanent, natural (such as caves, rock-shelters, and trees), or more or less completely adapted or constructed by man. Besides the special purpose of each structure, the planning and arrangement of its parts, the materials used, and the mode of construction, note should be made of the situations chosen for habitations, and the customary grouping of the separate huts or houses in a composite group. If possible, a number of such groupings should be

recorded and planned, so as to secure ample material for comparative study.

Caves, Trees, and other Natural Shelters are used either habitually or as places of refuge. Are there traditions of their former use? or place-names indicating such use? If they are still used, are they improved by excavation or by adding artificial walls or screens? Are the walls or roofs of caves ornamented in any way by painting, engraving, etc.?

Marsh-dwellings.—Are attempts made to solidify and raise above water-level the floors of hut-structures? Describe the methods employed and the habitations erected over the raised floors. Is there evidence of the floor-level having been successively raised from time to time by fresh additions of material?

Lake-dwellings and other Structures on Piles surrounded by water.—If these are in use, ascertain the reason. Describe the mode of construction, especially the manner of driving the piles; the modes of access; the allotment of spaces or huts to individuals or social groups; the provision for maintenance and repair, for defence, for protection against fire, for disposal of rubbish. Are pile-dwellings found inland? In river channels? or at a distance from water? Are there traditions or place-names indicating the former use of pile-dwellings or lake-dwellings? Lake-dwellings of early date have often left instructive traces. All small islands near the shores of lakes or rivers should be examined to see whether they have been inhabited; whether piles of wood have been driven in round the margin; and whether there has been a communication with the shore by means of a causeway. Preserve all relics found on or beneath the surface, and make a plan of the locality. Native fishermen, especially if they use drag-nets, often bring up manufactured objects from the bottom in the neighbourhood of ancient lake-dwellings.

Portable Shelters and Tents.—Describe the structure and materials. Is any provision made for fire-places, smoke holes, and other ventilation, windows and doors, floor covering, subdivision into rooms? Are special places assigned to

the owners or other members of the household, and to guests ? Who erect the tents and to whom do they belong ?

Permanent Huts and Houses.—Are the houses, though ordinarily permanent, so constructed that they can be easily taken down and re-erected ? What is their form and plan, and is this arrangement uniformly observed ? How are they constructed ? Is the work of construction individual or communal, or assigned to a special class or guild ? Are they specially orientated ? Are there few or many separate rooms ? If so, for what purposes ? or for what class of persons ? Are they structurally separate ? grouped round a central space ? or in series along one or more passages or corridors ? or are they passage-rooms communicating with one another directly, without passages ? Where the ground forms the floor is it prepared in any way by beating, or cementing ? or tessellating with fragments of pottery ? Are there floors or raised platforms in some parts of the house ? if so, for what purposes ? Is any part of the house below ground ? Is there an upper storey ? or more than one ? How is it approached ? by inclined planes, ladders, or staircases ? If so, are they external or internal, portable or fixed ? Describe their construction in detail. Note particularly the design of the roof ; the way in which timber-work is fastened together, whether by lashing, by pegs or nails, or by mortice and tenon ; and all devices for hinges, latches, locks, and bolts. What special provision is made in the houses for light, warming, cooking, eating, sleeping ? Is there a special fire-place and how does the smoke escape ? Is part of the house set apart for the men or for the women in general, or for particular persons, or for guests, or for domestic animals, or for stores ? What is the average duration of houses, and are they destroyed on being abandoned ? Who erect the houses and to whom do they belong ?

Furniture.—Are there fixture-fittings, forming part of the house, such as clothes-pegs, spear-racks, shelves and cupboards, hammock-slings, sleeping-berths ? In addition, what movable furniture is customary ? What purpose does it

serve? Is it regarded as part of the house or as the private property of members of the household?

Ceremonies in Construction.—Are any ceremonies observed in selecting a site for a house? or in preparing material, felling trees, digging foundations, laying the first stone or post, or during the building, or on completing the structure, or on entering into occupation? Is any part of the house sacred, or specially reserved? or used to contain sacred objects, heirlooms, or trophies? or believed to be inhabited by any kind of spirits? If so, what is believed about their nature and habits? Are there special houses for unmarried youths and girls? If so, describe them in detail and note any secondary purpose which they may serve.

Appropriation and use of Houses.—Does each family have a house? or how is the population distributed among the habitations of a community? For example, are there communal dwellings or club-houses for the unmarried men, or for other sections of the population? How is space assigned in them? Are there guest-houses? if so, to whom do they belong? To whom does a house belong? (v. PROPERTY, p. 158). What happens to a house when its owner is dead? Is the owner buried in or under his house? Are different houses, or different kinds of house, or different parts of the house occupied at different seasons of the year? Are the houses and their immediate neighbourhood kept clean and neat? What is done with dirt and refuse from the houses? Are there separate houses for the storage of food, or for the protection of cattle?

Arrangement of Camps, Villages, and Towns.—Besides the descriptions and plans of individual houses and other buildings, it is important to record the general outlay of the whole settlement; the situations chosen for villages and towns, —e.g., valleys, plateaus, slopes, forest, grass, etc.; the reason for the choice, water supply, drainage, fires, access and defence; the customary grouping of the buildings; the position, construction, and purpose of public or ceremonial buildings, such as temples, official residences, court-houses, assembly-rooms, and club-houses; the provision for streets, open spaces,

markets, wells, and other water-supply, surface-drainage, refuse-heaps, sanitation. Describe all defensive structures, such as stockades, walls, trenches, gates, and outlying forts (*v.* WARFARE, p. 162). A sketch-map should be made, if possible, of every village and town which is visited, since much may be learned by comparative study of a large enough number of examples. The name of the owner or head-man of the house should be ascertained, and also the clan or group to which he belongs. The social grouping of houses is of importance, and it should be noted if in a hamlet, village, or town they are arranged or grouped in such a manner as to indicate social distinctions. How long does a village remain in one place? When moved, how far, when, and why?

Town-houses often differ in their style and planning from country houses, and care should be taken, whether in town or country, to ascertain as nearly as possible the age of each house of which details are obtained.

FIRE

The use of fire is general in human societies, and statements as to tribes which either use no fire, or do not know how to make it, should be viewed with suspicion. The important aspects of the subject are fire-making, fire-keeping, the uses of fire, and its place in social and religious ceremony.

Fire-making.—Fire is usually obtained by wood-friction or by percussion. The friction methods comprise: sawing with one piece of wood across the grain of another (*fire-saw*), the “saw” being either a stiff piece of wood or bamboo, or a flexible strip (*e.g.*, of rattan) as in the *sawing-thong* method; ploughing along the grain of one piece of wood with another piece (*fire-plough*, or stick-and-groove); or drilling with a cylinder of wood into a pit in the passive piece or “hearth” (*fire-drill*). No accessory mechanical devices are used in the sawing and ploughing methods, but the fire-drill is not always worked by twirling the drill between the hands. A thong or strap, with or without a handle at each end, may be looped round the drill, as in the *thong-drill*; or the string or thong of a

small bow may be looped round the drill (*bow-drill*) ; in these two types a handpiece or mouthpiece is necessary to press down the drill during working. A third form of drill, though rarely used for fire-making, is the *pump-drill*, in which the thong is attached to the top of the drill, and usually at its two ends to a cross-piece. In addition to observations of the type and construction of the apparatus, notes should be made of the kinds of wood and their relative hardnesses, the exact method of working, whether two persons co-operate in making fire, the usual length of time that elapses before a spark is obtained, and any special precautions or devices that are determined by environmental conditions.

In fire-making by percussion (*e.g.*, with *flint and steel*) note the materials and the form in which they are used, the details of any kind of holder or container, and also the use of any mechanical method of producing the concussion.

The *fire-piston* depends for its working on the development of heat by the sudden compression of air in a confined space, and it has a restricted distribution ; note the details of construction and the constituent materials (wood, horn, metal).

In all fire-making observations record should be made of the kind of *tinder* that is used, if any, and its source or method of preparation. Cases of partial or complete displacement of native by foreign methods should be recorded. Ascertain whether any methods, obsolete for ordinary use, are employed for special purposes, religious or other, and whether fire-making appliances are used in child-naming, for procuring omens, etc.

Fire-keeping.—How is fire maintained ? Can it be carried about ? What device is used ? What is the customary *fuel* ? What precautions are taken against damage by fire ? Do neighbours co-operate to extinguish fires ?

Light, Warming, and other Uses of Fire.—How is artificial light obtained ? From the house-fire only, or from torches, candles, or lamps ?

If possible, obtain specimens of all such devices, even the commonest, and discover how they are made and by whom. How are huts and houses warmed ? Describe all fire-places,

ovens and stoves, portable braziers, fire-irons and other implements, smoke-holes and ventilation (*v.* HABITATIONS, p. 206). Fire may be used in wood-working, in fishing and hunting, in agriculture, in time-measuring, and in other ways.

Traditions and Observances.—Are there legends of the discovery of fire, or invention of fire-making appliances? Is fire itself, or the means for making it, personified? Is there any legend of the introduction of the present mode of fire-making? Is there a god of Fire?

Are any beliefs connected with the household fire? Is it placed in charge of any particular person? Are any ceremonies connected with it? and by whom are they performed? Is there a public fire on special occasions or in a special building? What are the occasions; are they connected with any natural season? Who has charge of making and keeping up the fire? Is it sacred, and is its extinction unlucky?

Are the ordinary fires ever put out and kindled from newly-produced fire? on what occasions and by whom? and is the new fire made by any special methods or with any ceremony? What account do the people give of the practice?

How is fire regarded in religion? Is fire used to purify from uncleanness, blood, death, moral guilt, etc.? and how is it applied? Is fire a means of driving away evil demons? Is ordinary fire used for any of these purposes, or, is fire specially made?

Is fire-making in any way connected with moral (especially sexual) purity?

Is there any custom against wounding or polluting fire? Are offerings given to it or consumed by it? For what reasons?

FOOD

Food-Stuffs and their Preparation.—For the preservation and collection for subsequent identification of food-stuffs *v.* GENERAL NOTE ON THE COLLECTION OF SPECIMENS, p. 381. Give in detail the staple and the accessory articles of diet, and identify the principal varieties of animals and plants

employed in either category: the former may include anything from worms or grubs to man, and the range of plants is equally varied; also note whether the food-stuffs are derived from wild, or domesticated, or cultivated species. When are the principal food-stuffs in season? Does any seasonal migration or trade depend upon this? Describe any special ceremony that marks the opening of a seasonal change of food, the first kill, fishing-haul, harvest, etc., and how this differs from subsequent customary rites of like nature. Collect all myths dealing with the origins of certain forms of food, and those referring to their procuring, cultivation, preservation, and treatment.

When poisonous plants, or animals killed by poison, are used as food, how are the noxious qualities extracted, and by what appliances? Does any wild or cultivated cereal, pith, roots, or other substance provide material for making bread, cakes, puddings, etc.? What methods and means are employed for pounding, grinding, and otherwise preparing grain and other food-stuffs as flour, or to break up any other kind of food? How is the flour prepared for eating?

What animals, or parts of animals, or plants are thought unfit for food, and why? Is marrow much sought after, and how is it extracted? Is any particular kind of fat prized, and why? Are any parts of animals reserved for medicinal use? The diet of sucklings and children should be investigated.

Milk.—What use is made of milk? From what animals is it obtained, in what vessels is it collected? Who does the milking? Are any ruses employed in order to milk the animals? Are there any preparations of milk made, such as curds, butter, cheese, etc.? Is milk ever boiled? Describe all customs and beliefs connected with milking and the use of milk. Is it believed that the use to which milk is put will affect the animal milked?

Preservation and Storage of Food.—Are there store-houses of any kind for food, how are they constructed and protected from the ravages of animals? Are they the property of individuals, families, clans, or villages? Has the storing of food ceremonial importance? Does it enhance social prestige?

Are there any devices or appliances for hanging up food out of the reach of vermin? Is any food preserved by smoking, salting, or drying in the sun or over a fire, and is such food consumed without further preparation? Does prepared food feature as a medium of exchange?

Cooking.—What articles of food are eaten raw? Is food preferred fresh or "high"? Is meat preferred slightly or well cooked? How are the various food-stuffs prepared before cooking, and what methods of cooking are employed and by whom? In roasting, broiling, grilling, etc., are spits or other appliances used? In frying, what grease or oil is preferred? In baking or steaming, what ovens are used, of what form, and of what are they made? There are various kinds of earth-ovens or pits, and the whole procedure should be described; are they temporary or permanent? Are hollow trees, termite-hills or other natural objects employed? In stewing and boiling, what cooking vessels are used, are they cleaned after use? (*v.* POTTERY, BASKET-WORK, pp. 250, 245). What other appliances are used? How are cooking vessels supported or suspended over the fire? Are hot stones used for boiling, or natural hot springs or "fumaroles"? Are special cooking vessels preserved for individuals, ritual occasions, etc.?

Condiments.—Are any vegetable or animal oils or fats used in cooking, how are they made and by whom? Make special inquiries about the use of *salt*, the method of obtaining, preparing and storing, and concerning all customs and taboos connected with it. Is sugar, honey, or other sweetening substance used? Are there any stimulants to the appetite in use; are they, or other things, served as side-dishes? Are any vegetables cooked with the meat? Are any broths or stews made with the vegetables? Is any leaven, yeast, or similar substance employed? Is there any mode of preserving fruit or vegetables by cooking with sugar, fermenting, pickling, etc.?

Observances and Traditions.—Is the cooking carried on in the dwelling-house or in a separate building? Are there any spots where it is definitely forbidden to cook? Is cooking performed exclusively by one sex, and are there any rites or

beliefs connected with it? Does cooking, or a particular food-stuff, form part of magico-religious ritual? Is the food for men and women cooked together or separately? Are there any occasions when food is cooked for the whole community together? When cooks form a separate class, do they rank high or low in the community? Are there traditions as to the origin of the art of cooking? Are there fables or sayings in regard to food-taboos? Are any parts of an animal reserved to one sex or persons of high position? Ancient refuse-heaps or kitchen-middens should be excavated, and all contents noted and samples collected. Do the present inhabitants form such heaps; if so, are they near or far from the permanent habitations, or near the place where the food is found, as on the sea-shore? Is anything else buried in the refuse-heap, such as a still-born child or the placenta?

Is the preparation of any particular substance used as food or in cooking, such as suet, in the hands of particular persons?

Meals and Eating Customs.—Are meals at set times, or dependent on the accidental supply of food or on individual inclination? Are they common to a household or village, or does each person eat separately? Does all the household eat together or is there a distinction of sex, ranks, or ages? How are foods served and in what receptacles? Is there any particular sequence in the order of the dishes? Can any estimate be made as to the quantity of food eaten at each meal? If possible work out an average daily dietary for both sexes. Is it the custom to eat to satiation? Are any attentions paid to invited guests or strangers? Is the food ready cut up or does each help himself? Is there any order observed in helping the persons present or in giving drink? Give names of all implements used at meals. Note any peculiarities in the mode of eating or drinking; if food is taken with the fingers are both hands used or only one, if so, why? Does the method of eating differ according to sex? In times of temporary scarcity or on a journey, are any means employed to deaden the pangs of hunger? Are there any ceremonies used at the beginning of meals, such as washing of hands, offerings to divinities, etc., or any religious rites connected with them?

Is there any ritual connected with the disposal of food left over from a meal? On what occasions are great *feasts* held? and are they given by individuals, or by kinship or local groups? Are any special foods associated with particular feasts? Are ancient habits observed at feasts, such as old dishes or ways of cookery? Are there special forms of address, healths, etc., at feasts? Is there any special licence as to language, sexual intercourse, etc., allowed at feasts? Is the ceremonial exchange of feasts, or of food, a definite part of the customary or legal obligations of kinship, chieftainship, priesthood, etc.?

Prescribed and Forbidden Foods.—Is any special article of food prescribed, restricted, or prohibited by custom, taboo, or special enactment of a chief, priest, or medicine-man? Do these restrictions apply to individuals either permanently or in some special crisis such as pregnancy, childhood, puberty, illness, etc.; to families or clans, either permanently or seasonally, or on special occasions; to special societies, age-grades, or ranks? How far are the prohibited animals, plants, etc., objects of religious cult or tradition? What reasons are given to account for such prohibitions? What penalties are believed to follow the breaking of the restrictions? Are there any occasions when cooked foods or warm foods and drinks are taboo? Note particularly any restrictions on the use of milk or of other foods in combination with milk.

Exceptional Foods.—In seasons of scarcity or famine are any unusual substances used as food, such as bark, clay, etc.? Is the eating of earth known apart from this? What is the nature of the earth? what effect has it on those who eat it? and what is the reason for eating it? When going long journeys or undergoing hard labour, is any kind of substance of a peculiarly invigorating nature eaten? Is there any marked difference in the food of the chiefs or rich men, and that of the poorer classes?

Cannibalism.—Is it frequent or exceptional? Is human flesh looked upon in the same light as other animal food, or partaken of as a matter of ritual? When human flesh is naturally eaten, do the partakers believe they obtain the

qualities of the deceased? Does human flesh form part of the regular food of the people? Do the natives seem ashamed to confess it? Are any reasons assigned for it? Are the victims generally men, women, or children? Are they enemies slain in war, captives taken in war or by deceit, or slaves, or other persons selected for the purpose? Has the cooked human flesh any name of its own, euphemistic or otherwise? Is it prepared in the usual cooking-places, or are there special cooking-places set apart or constructed for the purpose? Are any special vessels or implements used for cannibal feasts? What parts of the body are eaten and why? Are any parts considered delicacies? What is done with the bones? Are any of them used for implements or ornaments? Are any special ceremonies observed in cannibal feasts? Is any magico-religious idea connected with it? and are the victims considered sacrifices to the gods? Is the use of human flesh confined to any class or sex? Is an individual considered unclean after joining in a cannibal feast (*i.e.*, is there a distinction between a dead body in the ordinary sense and one intended to be eaten?). Is the sacramental eating of parts of the corpse a mortuary rite, and with what beliefs is it associated? If cannibalism no longer prevails, are there any traditions as to its once having been known?

Water and other Natural Drinks.—Is water commonly drunk? Is it drunk in sickness? What devices or utensils are used for collecting, and what vessels used for transporting and storing water; who do this, how are water vessels carried, and what methods are employed to prevent spilling? (*v. Waterworks*, p. 221). Are any means used for purifying it? What method is employed when drinking from a stream or pool? What substitutes are used when water is scarce? What natural drinks other than water are used?

Artificial Drinks.—What artificial drinks are prepared and how? by *solution*:—dissolving sugar or honey, kava, chicha, etc., in water; are these solutions allowed to ferment? by *suspension*:—mixing meal and water; by *extraction*:—treating with cold water; by *infusion*:—treating with hot water, as tea, coffee, etc.,—are they of native growth or imported?; by

decoction :—boiling. *Fermentations* : are fermented drinks made, and, if so, are they known to be indigenous, or introduced ? Are they made from naturally occurring substances, and, if so, how collected ? Are special crops grown for this purpose ? Are fermented drinks of the nature of (a) *wine*, by the fermentation of fruit juice, tree saps, etc. How is it made and stored, and how long will it keep ? (b) *beer*.—Is beer known ? From what grain is it made ? Is the grain used raw or malted ? If the latter, how is it turned into malt ? Are any ingredients employed, such as hops, to flavour the beer or make it keep ? Describe the mode of brewing and fermenting. Is any substance added, like yeast, to cause fermentation ? How is the fermentation checked ? How is the beer stored ? and how long will it keep ? What are the utensils used in making, storing, and serving out the beer ? Is beer-making a distinct vocation or does each family brew for itself ? (c) *spirits*, by distillation, when a fluid, usually fermented, is heated in a closed vessel to separate the more volatile part, which is collected by condensing the vapour. Is any fermented drink made from milk ? Are any ardent spirits known ? Are they of native manufacture or imported ? If native, from what substance are they made ? and how ? Describe the still and other appliances. Is any flavouring employed ? Is there any tradition as to the source from which the art of distilling was learned ? What is the approximate strength of the alcohol ?

Uses and Observances.—Are the artificial drinks used alone or with food ? Are they prepared by men or women ? at the time of drinking or beforehand ? Are artificial drinks used on ceremonial occasions ? Are any ceremonies connected with drinking ? Are special vessels reserved for particular drinks ? Are they said to be nourishing, medicinal, stimulating, narcotic ? Note their effects. Does blame or loss of reputation attach to the use of any particular drink, or to drinking in excess ? Are there any myths or traditions connected with drinks or drinking customs ?

STIMULANTS AND NARCOTICS

What stimulants are used other than fermented and distilled drinks? What narcotics are used? Are they indigenous, or imported? In either case, give any traditions as to their discovery or introduction. Give the name of each and its meaning, if this is known to the people. Are they now an article of trade? What is the method of preparing them for use? Are they used in a pure state, or mixed with other substances? Describe and photograph the process of preparation and the utensils employed. On what occasions are they used? Are any superstitions connected with their use? Is the use of any of these confined to the use of one sex or class? Is its use carried to excess, and what is thought of those who exceed? What effects on the physical and moral condition of the people can be observed from the use of such substance? (*v. MEDICINE*, p. 347.)

Tobacco, and its Substitutes.—Are any plants such as hemp or other material smoked, chewed, or used as snuff. How are they prepared for use? Obtain specimens of raw material and apparatus for smoking or inhaling, and photographs of smokers. If pipes are used, of what material are the bowls and stems made? Is the smoke drawn through water, fibre, or other filtering substance? Is each pipe smoked by a single individual or are pipes passed from one person to another? Are any ceremonies or myths connected with smoking? Is narcosis induced for surgical or other purposes?

PROCURING OF FOOD

The collection of an adequate food supply is the first charge upon the time and energies of all peoples, and the character of the food-quest goes far to determine the nature and amount of their supplementary occupations. In the sections which follow, evidence is sought as to the way in which a people equally maintains itself under the given geographical conditions: soil, climate, vegetation, and the like. Historical

information may often be obtained in the course of inquiry into present conditions, but it should be recorded separately and authenticated with the name of the informant, and also, if possible, with a note as to his means of information. The subject may be divided into the principal headings of :—

- I. Food- Gathering.
- II. Plant Cultivation.
- III. Domestication of Animals.
- IV. Hunting.
- V. Fishing.

General Questions are put together at the end, p. 230.

FOOD-GATHERING

The most primitive method of obtaining food is the simple collection of such wild animal food as insects, shell fish, etc., or wild plants and sea-weeds. A list of such wild produce as merely require finding and gathering should be obtained ; describe and collect appliances used for reaching, or detaching, or raking together, and for carrying. The method and seasons of collecting, and the share undertaken by each sex should be noted.

PLANT CULTIVATION

This section considers only the arts of horticulture and agriculture, by which a people obtains food and other commodities from cultivated plants. The social activities which are characteristic of societies which depend mainly on cultivated plants for their food supply and livelihood are considered separately (*v.* AGRICULTURAL LIFE AND PROPERTY, pp. 129, 158).

Do people cultivate the soil, or do they only gather its natural produce ? Note cases in which wild trees or other plants are protected or fostered in their growth. How, to what extent, and by whom are clearings made in forested or bush land ? Are grass and bush burnt, and for what purpose ?

What implements are employed to prepare the ground? digging-stick, spade, pick, hoe, mattock, plough, roller, etc.? Describe the forms of the tools, materials and construction. Are they of home manufacture, or imported? Make drawings and, if possible, photographs of them in use, and obtain specimens or small scale models of them. Is any domestic animal employed in ploughing or harvesting, or otherwise? Are *irrigation*, *drainage*, *terrace-cultivation* practised, and by what methods? (*v. Waterworks*, p. 221.)

What plants are cultivated, whether for food, food for animals, stimulants, narcotics, or ornaments? What parts of the plant are used for food? Are any wild or uncultivated plants commonly used as food, or resorted to in time of scarcity? If so, what are they? Are any diseases attributable to their use? Are any of the cultivated plants apparently derived from indigenous wild ones? Describe any cultivated plants that are exotic, and ascertain the native traditions or beliefs as to when and whence they were derived. Are there any legends respecting the introduction of any of the food-plants, or their creation by culture-heroes or deities? At what seasons and in what manner are the plants sown? How are the proper seasons recognized? Is any instrument or appliance used to indicate or ascertain times and seasons? Is any attention paid to the growing crops? Are hedge-rows, or plantations, or other devices used to protect crops in exposed situations? How are the crops protected from depredation, and against what animals? Describe scarecrows or other means of frightening away birds or animals. Are any charms placed in the field, or rites or dances performed to make the crop good?

How and with what implements is the harvest gathered and carried home? How is it stored? Describe all stacks, caves, pits, or specially constructed granaries. What methods and appliances are used for cleaning, threshing, or winnowing grain, or for preserving fruits or leaves, and for the preparation of food from the raw material? (*v. Food*, p. 211). Are the poisonous or other peculiar qualities of plants well known? (*v. Food and Poisons*, pp. 212, 347). Is the same land tilled

again and again till it becomes barren, or is fresh ground cleared and tilled yearly, or after a few years only? Is fallowing understood, or is there any idea of rotation of crops, or the use of manure of any kind? What are the relative values of the different cereal or other grains, fruits, leaves, or roots? What produce is imported and exported, and whence, and whither?

Waterworks.

Describe the source of the people's water supply. Is it from rain-water, springs, streams, standing pools, or wells? If from wells, how is the water raised? (*v. Mechanisms*, p. 260.) Is water stored, or must it be sought as required? Obtain, if possible, examples of the ordinary buckets, ladles, and water jars. How is water transported, for domestic use or for agriculture? Describe all cisterns, channels, and conduits, dams, sluices, and floodgates. Note any cuttings made to drain off surface water; these should be distinguished from irrigation canals. Is water-power employed for mechanical purposes? If so, give working drawings and full descriptions of the water-wheels, or other mechanism. Is water used to measure time, in a *water-clock*?

Are there any legends or ceremonies connected with water? Is water sacred? Is it capable of ceremonial pollution? Is it personified or regarded as the abode of spirits?

DOMESTICATION OF ANIMALS

This section considers only the arts by which animals are kept under human control and made serviceable as food or otherwise. The social activities which are characteristic of societies which depend mainly on domesticated animals for their food supply and livelihood are considered separately *v. PROPERTY*, p. 158, *PASTORAL LIFE*, p. 130, and *Livestock*, p. 136.

Give a list of the domestic animals kept by the people, with their native names; add photographs or drawings, and full notes of all peculiarities of breed, colour, shape, humps, length of horns, etc. Are any marks or peculiarities in the

animals considered lucky or unlucky? If so, what reason do the people give? Are the same or similar animals found wild in the neighbourhood, or elsewhere? Is there any knowledge or tradition as to the origin of domestic animals?

Species and Uses.—If *cows*, *sheep*, and *goats* are kept, are they horned or polled? Are any malformations practised on their horns? If so, is this done to all or to special beasts, favourites, leaders of the herd, cows, entire or gelded beasts? Are they used for draught purposes? Is their flesh eaten or blood drunk for food (as among the Masai), or are they kept only for dairy or religious purposes? Describe fully the dairy establishment, and, above all, dairy processes (v. FOOD, p. 212). What use is made of the hair or wool? (v. WEAVING, p. 266). If it is made into *felt*, describe the process. If *camels*, *reindeer*, or other animals are used, state for what purposes. Are *horses* used for food? Is the mare's milk used?

What breed of *dogs* is kept, and what are they used for? How are they treated? How do they behave to their owners; to their owners' families; to other members of the same social group; to strangers? Are *cats* kept; of what kind; are they fed, or are they expected to provide for themselves? What other vermin-killers are kept (mongoose, ferret, etc.)? Is *poultry* kept? Describe the breed. Is cock-fighting customary, or any analogous practice? Are *bees* kept? Describe the hives. How is the honey taken? Is any kind of *silkworm* kept? On what are they fed? Are any animals (including insects) kept for their music, for fighting, or other purposes? Are any animals kept specially for use in hunting or fishing; or as pets?

Rearing and Taming.—Are domestic mammals and birds kept or bred for sale, or only for the owner's use? If sold, to whom, and at what markets, and what is the relative value of each? Note any beliefs and customs in regard to *breeding*. Are certain breeds considered better than others, if so, why? What care is taken to preserve purity of breed, or to improve the breed? Are the females mated with wild males of the species? Are any hybrids or *mule* animals bred?

How are animals broken-in and trained? If they are caught

and tamed, describe the mode of catching (*v.* HUNTING, p. 224). Are they shod ; if so, how ? Describe the mode of recovering half-wild animals or animals at pasture, and of catching and herding the flocks. What cries or instruments are used to call animals, to encourage draught animals, etc. ? Is the *sling*, or the *lasso*, or the *bolas*, or the *pellet-bow* used in herding ? Are domestic animals well treated ?

Is gelding practised ? If so, what is the process, and what is the alleged purpose of the operation ? Who performs it ? Is it accompanied by any ceremonial ? What is done with the removed organs ? What diseases prevail among the domestic animals, and what remedies are employed to cure them ? What becomes of animals which die naturally ? How are the animals killed, butchered, and cut up ? Describe how each class of domestic animal is housed, fed, and tended. Is the care of any class of animals regarded as the privilege of a particular class, caste, or sex ? What precautions are taken to protect the animals from wild beasts ? Is any hay or other fodder stored for winter use ? If so, how is it prepared, how and where stored ? Describe all brands and other marks of ownership which are put upon the animals, noting the process, and adding drawings of the marks. Also whether brands are personal, belonging to the clan or the group. Are cattle the absolute property of the individual, or are individuals allowed only the use of certain beasts which may be recalled at the will of a superior ? (*v.* PROPERTY, p. 158). To what extent do cattle-lifting and other concomitants of pastoral life lead to war ? Does the necessity for finding pasture lead to definite seasonal migrations of the herdsmen ? Describe the conditions. Describe all beliefs, observances, and customs involving domesticated animals, or dairies, or implements used in connection with animals. Whips, yokes, saddles, bridles, etc., may be considered here or under (TRAVEL AND TRANSPORT, p. 278). Note any charms that are used either on the harness or elsewhere, for the protection of animals. Are women under any circumstances forbidden to have anything to do with any class of domestic animal ? What is the reason alleged ?

HUNTING

(1) *Hunting, or active pursuit practised by individuals* (sometimes in pairs) usually consists in (i) tracking; (ii) stalking; (iii) lying in ambush by water, salt-licks, game-runs, etc., with or without a specially prepared bait or decoy; (iv) overtaking by greater speed or endurance. In each case give a list of animals and birds so obtained, and describe methods and weapons (*q.v.*). State whether portable screens or disguises are used to conceal the hunter when stalking. In some cases the hunter makes use of the active services of some trained animal, such as a dog, cheetah, or hawk. The method of training and use should be described (*v. DOMESTICATION OF ANIMALS*, p. 221).

(2) *Hunting by a number of persons acting in concert.*—In this case the object of the party is usually to drive the game, by fire or by beaters (often assisted by dogs) into nets, pits, enclosures, or up to a party lying in ambush. Fences are often constructed beforehand to force the game to take a certain line. The tactics employed during a hunt should be described, and also the weapons carried by the various parties into which the hunters may be divided. Are the weapons poisoned? Describe preparation of the *poison* (*q.v.*) and secure samples. The formation of the groups of persons who hunt together should be investigated. Are they bound by any social or local tie?

Traps, Baits, Nets, and other Hunting Gear.—The sections which follow, on the appliances used in hunting and fishing, are given in greater detail than some others, as an example of the kind of classification which may be attempted in every department of Technology, when circumstances permit.

Traps may be divided into the following classes: (1) Traps set in motion by a concealed operator; either (i) unbaited traps [cage-traps, net-traps, etc.], or (ii) traps used with a *bait* or decoy (*v. below*).

(2) Traps caused to act by the game itself.—(i) Unbaited traps (such as pits, with or without stakes, snares, dead-falls, springes, bow-traps, spear-traps, etc.), or (ii) traps used with a

bait or *decoy* (q.v.) (e.g., cages, nets, springes, etc.) ; (iii) *bird-lime* ; the preparation should be described and the method of laying the trap.

(3) *Poison* is sometimes laid for game. The method of preparation and laying should be noted, and a sufficient quantity of the poison obtained for analysis, p. 347.

The localities in which traps are set, the method of setting, and the animals for which they are intended should be carefully noted. Native names for traps and parts of traps should be recorded. Diagrams should be prepared showing manner of operation and the position of the parts when the traps are set. In such a matter as this a simple diagram involves less labour, and is far more comprehensible than a detailed description.

Baits are attractive objects, used with land traps of all kinds, and also in fishing. They may be divided into (i) baits proper ; (ii) decoys ; (iii) lures ; (iv) flares.

(i) *Baits proper* are the actual food of the animal or fish it is desired to capture. *Live-baits* may be any living animal ; state the baits used for particular game and the method of securing them, etc. *Inanimate baits* may be animal or vegetable ; state whether used fresh or putrid, whether poisoned or not ; give the baits for particular game.

(ii) *Decoys* are animals (or imitations of them), the presence of which attracts other animals of the same or allied species. Animals may also be attracted by means of a call or cry, produced with or without an instrument. The living decoys may be either untrained or trained (v. DOMESTICATION OF ANIMALS, p. 221).

(iii) *Lures* are occasionally employed to attract land-animals as well as fish ; they usually appeal to the sense of colour and curiosity rather than to the appetite.

(iv) *Flares* are mainly used over water to attract fish, which are speared or netted, but they are sometimes used to attract land-animals.

FISHING

Fishing is carried on either (a) without appliances or with (b) nets, or (c) traps, or (d) dams or weirs, or (e) lines, or

(*f*) arrows, spears, harpoons, and gaffs, or (*g*) poison, or (*h*) trained or wild animals (birds, beasts, fish).

(*a*) *Without appliances*, fish are often caught with the bare hand; the various methods of approaching and seizing the fish should be described in detail.

(*b*) *Nets* are of many fabrics and designs. For the mode of manufacture, *v.* STRING, p. 263. Nets are designed either to be manipulated by one or more persons, or to be self-acting. The latter class merges with the self-acting or basket-traps.

Nets manipulated by one or more persons may be classed as follows: (i) *Hand-nets*, with or without a frame of cane or of wood; (ii) *Cast-nets*, weighted at the edges; when thrown upon the water they sink and enclose any fish which may be beneath; describe the weights and the method of casting and recovery, with photographs if possible; (iii) *Seines* are long nets, furnished along the upper edges with floats, and along the lower edges with sinkers; these are "shot" into the water so as to enclose as large an area as possible, and then drawn to land; describe the floats, sinkers, and method of "shooting" the net; (iv) *Trawl-nets* are bag-shaped like hand-nets, but weighted so as to sink to the bottom, and stayed open to admit the fish when the net is towed along.

Self-acting nets are stationary, and are usually supported by stakes, which may be either (i) set in one straight line across the set of the current or tide, so that the fish become entangled in the meshes; or (ii) arranged so that the net forms a chamber or series of chambers, into which the fish find their way, and in which they are left by the receding tide or falling river. In the latter case a plan should be given, the position of the stakes being indicated by dots. Often the place of the net is taken by a wicker fence; in this case a plan should be given and the construction of the fence described in terms of BASKET-WORK, p. 245.

(*c*) *Traps* are either manipulated by the fisherman or are self-acting.

Traps manipulated by the fisherman include (i) *basket-traps*; simple conical structures, placed rapidly over fish seen in shallow water; to be described in terms of BASKET-WORK, p. 245;

(ii) *Nooses* ; (iii) *Cage-traps*, of which the door is lowered or closed when the fish is seen to be within.

Self-acting traps include (i) *basket-traps*, of the "lobster-pot" and the *thorn-trap* patterns, which simply prevent the escape of the fish once they have entered ; (ii) *automatic traps*, such as cage-traps, net-traps, and spear-traps, used with a bait, disturbance of which sets the trap in action. Give plans and diagrams.

(d) *Dams and weirs*.—Streams are often dammed and the water scooped out of the pools, the fish being captured with the hand, baskets, spears, etc. Describe the construction of the dams (*v. Waterworks*, p. 221), and all implements used in connection with them. Weirs and dams may be built across streams or pools, or on the sea-shore below high-water mark, which are filled by the rising river or tide. They are often designed with openings in which basket-traps are (*q.v.*) set.

(e) *Lines and their tackle*.—Describe the material of the line ; the method of holding or securing (by a reel or winder). Is a rod used ? If so, give full description.

1. *Lines* directly operated by the fisherman include (i) lines furnished with bait, simply tied to the line, or placed on a hook, or on a gorge (see below for explanation of these and other fishing terms) ; (ii) lines furnished with lure either simply tied to line, or attached to, or forming part of, a hook, or of a gorge ; (iii) lines furnished with a gig, p. 229. Lines unconnected with the fisherman may be (a) stationary lines, such as pegged lines, long-lines, night-lines ; (b) trimmers, p. 228. In either case describe how these are secured, and how the bait is attached.

2. *Tackle* may be described briefly and accurately with the help of its special vocabulary, which is copious and precise. The most important terms are as follows :—The function of a *hook* is to form a support for a *bait* or *lure*, and to capture the fish by penetrating some portion of the mouth or gullet. The parts of a hook are the *shank*, the *bend*, and the *point* ; the last may be furnished with one or more *barbs*. Hooks may be divided into (a) solid, and (b) composite. Describe carefully

the materials, and the method of manufacture. A hook proper should be carefully distinguished from a hook-shaped *gorge*.

A *gorge* is simply a support for a bait, which the fish swallows and is unable to eject. (a) A straight gorge consists of a straight, or nearly straight, more rarely angular, piece of wood, turtle-shell, metal, etc., to the centre of which the line is made fast so that it forms a toggle; this turns athwart the gullet of the fish when the line is pulled. (b) A hook-shaped gorge is furnished with a recurved point or barb under which the bait is fastened; the fish is captured not because the point has penetrated any part of the mouth or gullet, but because it is unable to eject the bait and its support.

Bait may be either "live bait" or inanimate: note what bait is used, p. 225, and how it is attached to the tackle. A *lure*, as opposed to a bait, is an artificial representation of some object upon which fish feed, or it is an object which attracts fish by its bright colour, or rapid motion through or on the water. *Lures* may be (a) a brightly coloured piece of textile, a piece of sponge, or spider's web, simply attached to the line in place of a hook, to entangle the teeth of the fish or to act as a gorge; or (b) fragments of shell, beads, imitation fish, etc., attached to hooks; or (c) the lure may be itself a hook made of shell or some other gleaming material; these are often so cut that they acquire a spin when they are drawn through the water. A *flare* is a fishing-torch sometimes used to attract fish at night.

Floats are used to sustain the bait at a certain depth in the water; they may serve further as a tell-tale to inform the fisherman when a fish has taken the bait. The nature and construction of all floats should be noted and any method of weighting described. Ordinary floats are in direct connection with the fisherman; in this category may be included *kites*, which are sometimes employed to keep the bait tripping along the surface of the water. *Trimmers* are floats which are not connected with the fisherman, but are allowed to wander as the wind or stream may carry them. The buoyancy of the

float and the resistance which it offers to the water assists in tiring the fish.

Methods of using Tackle.—In *bottom-fishing*, the bait is on or close to the bottom. State how the bait is weighted. Floats are not essential here, but are often used as tell-tales. The following terms may be useful in description. A *ledger* is a tackle in which the sinker is attached to the line above the bait, so that part of the line and bait lie on the bottom. In a *paternoster* the weight lies on the bottom, and the bait is attached to the line a short distance above it. In *mid-water fishing* the whole is suspended; there is usually, but not always, a float. In *surface-fishing* there is no sinker, and the bait is simply cast upon the water, as in fly-fishing, or suspended from a kite.

Appliances for transfixing fish.—Of these the commonest are *Spears*, *Arrows*, and *Harpoons*. Describe each variety and state whether it is simply thrust with the hand or thrown, with or without the aid of some appliance; whether it is attached to the fisherman with a cord; whether used from the bank or from a specially prepared staging, or from a boat; whether the spear is thrown or thrust at random, or whether the fish is stalked; whether flares, cressets, or other artificial lights are used in spearing fish at night; how are they made and used? Do they attract the fish like a lure, or simply reveal them to the fisherman? *Arrows* are sometimes used for fishing: describe and state whether they are of simple form, barbed or unbarbed, or of a harpoon type; and whether a cord is attached to them by which they can be recovered. See also p. 237, WEAPONS. *Gaffs* are really fish-hooks with the shank prolonged into a handle, or lashed, or otherwise fastened to a handle; describe in detail. A double-gaff has a Y-shaped handle with a barb fixed on the inner face of each of the arms. A *trident* has three arms, each furnished with one or more barbs; a *leister* has four or more. A *gig* is a hook which is lowered among a shoal of fish with the design of “snatching” one of them. *Rakes* are sometimes used for transfixing small fish which congregate in shallow water.

Poison is sometimes placed in the water of pools and rivers

so as to kill or stupefy the fish. Describe its nature, preparation, and use; and secure samples in sufficient quantity for analysis.

Use of animals.—Fishing with the aid of an animal is rare, but of exceptional interest. Note whether the animal is trained like a dog, otter, cormorant *v.* DOMESTICATION OF ANIMALS, p. 221, or an untrained animal like the remora or sucker-fish.

Social Observances arising from the Collection of Food.—How are hunting and fishing parties organized, and under whose leadership? Do both sexes participate? If so, are particular functions or methods reserved for each sex? How are the spoils divided, with especial reference to (i) the chief; (ii) the person who inflicted the first wound; (iii) the person who killed the animal; (iv) the owner of the land, water, or fore-shore; (v) the owner of the net (in hunting or fishing); (vi) the owner of the canoe? Are women forbidden to touch or approach hunting or fishing appliances, either altogether or when in a particular state of health? Do hunters or fishers form a particular class or caste? If so, is the status inherited, or by what method can entrance to the class or caste be obtained? Are any records kept of prowess in hunting, or are distinctions assumed by successful hunters? Do any ceremonies take place before setting out for, or on returning from, a hunting or fishing expedition? Must hunters or fishers observe any particular prohibitions (from certain foods, sexual intercourse, etc.) before setting out? If so, for how long? Must women observe any prohibitions during the absence of men on hunting expeditions? Give any details as to hunting or fishing-rights. Are they hereditary? How is trespass incurred and punished? Are there any superstitions or legends relating to luck or omens in hunting or fishing, or to "mighty hunters" in the past? Do the natives allege any reason for any ceremony, prohibition, or other practice connected with hunting or fishing?

Is hunting or fishing the principal mode of obtaining food, or are these associated with agricultural or pastoral occupations? In the latter case, has there been a *recent* change from a nomad, hunting condition to a more sedentary habit?

WEAPONS

In dealing with weapons, three points should be kept in mind. (1) All descriptions should be constructive—*i.e.*, the description should follow as far as possible the process of manufacture. (2) Outline sketches with sections are of the greatest use when dealing with objects of such infinite variety of form as weapons; terms expressing shape are generally relative or otherwise indefinite. An outline with diagrams of cross-sections will often save many words, and is more certain of conveying the exact form of a weapon than any verbal description. (3) Particular care should be taken that the material or materials used in the manufacture of a given weapon are expressly stated. This may seem too obvious to mention, but experience shows that an observer very often omits this most necessary piece of information, no doubt owing to the very fact that it is so evident to his eye. If the weapon is simply "cut from the solid," the material need only be mentioned once, preferably at the beginning of the description; if the weapon is composite, the material of each part should be stated when that part of the weapon is first mentioned.

General Notes.—Is poison applied to any weapon? If so, describe the nature and method of preparation and application, and secure samples sufficient for analysis, *v. Poisons*, p. 347. Is any "medicine" or any charm applied or fastened to weapons? If so, describe fully, with details as to the supposed effect. Is any incantation or analogous ceremony performed over weapons (*a*) before or (*b*) after use? If so, state the alleged purpose. Are any weapons peculiar to either sex? to any rank or class? to any individual? (as a mark of distinction for bravery or otherwise). Are women forbidden to touch or see weapons, either altogether or when in any particular state of health? Is any reason given for this? Are there any restrictions as to the carrying of weapons by certain individuals, in certain places, at certain seasons, on certain occasions? Are any reasons given? What penalty, if any, for infringement? Who may own weapons: the individual, the chief,

the community? Where are they kept? Is there any penalty for the loss of any weapon in fight? Describe any decoration of, or ornamentation applied to, weapons, and give the alleged meaning or reason for it. Are conventional copies of any weapons made in the same or other material for ceremonial use? If so, when, and how, and by whom are they used? Are weapons or imitations of them ever used as currency?
v. MONEY, p. 139.

History of Weapons.—Such history may be either explicit or implicit. By the first is meant any tales or legends referring to the origin, invention, adoption, use, obsolescence, of any particular weapon. The second, which is equally important, depends not on tradition but on observation; valuable indications of the early history and migrations of a tribe may often be gleaned from the use among them, for ceremonial purposes or as currency, of weapons and forms of weapons which are no longer employed in war or hunting. Such weapons are often highly conventionalized and difficult to identify, but sometimes the native name will give a clue as to their real nature. The presence of a weapon, in actual use, which is obviously ill-adapted to the present environment (*e.g.*, weapons suited to open country, in a forest tribe) may give a clue to an earlier home.

Weapons may be classified according as they are used for *offence* or *defence*.

I. *Weapons of Offence.*

These may be classified according to their mode of use, as follows:—

(A) **WEAPONS HELD IN THE HAND.**—(i) *Natural Objects* should be noted, which are either (*a*) simply held in the hand so as to give additional force to the blow, or (*b*) used to strike a blow.

(ii) *Manufactured Objects.*

(1) *Ornaments*, such as rings and wristlets, are sometimes furnished with spikes or a cutting edge so that they can be used for offensive purposes; state whether any form of protection, such as a sheath, is affixed to the spike or edge when not in use.

(2) *Clubs* and analogous weapons are designed to strike a crushing blow, and for this reason the centre of balance will almost invariably be found to be situated nearer the head than the handle. Some clubs made of hard wood are furnished with an edge which will inflict a cut. The following parts may be distinguished in a club: (1) the grip; (2) the shaft; (3) the head.

(a) Solid clubs and maces. Describe material and shape, giving outline and sections at various points. Is the grip roughened or otherwise treated so as to afford a firmer hold? Is there a "stop" at the end of the grip, or a wrist-loop, to prevent the weapon slipping from the hand? How is the weapon carried when not in use? how is it used—with one hand or two?

(b) Composite clubs, maces, and hammers call for records of constituent materials and of details of construction.

(c) A *flail* or *ball-and-thong club* differs from a club proper in that the head is connected by a strip of pliable substance, a chain, or a hinge-joint so that it swings more or less loosely on the end of the shaft. See queries above, and note in addition how the head is connected with the shaft.

(3) *Axes* and analogous weapons have primarily the same functions as clubs, to strike a crushing blow, but the axe has a secondary action of cutting or piercing; it is further distinguished by the fact that this cutting or piercing portion is set at an angle, usually not greater than a right angle, with the handle. When this weapon is furnished with a cutting edge it is termed (1) an *axe*, if the edge lies in the plane of the stroke; (2) an *adze*, if the edge is at right angles to the plane of the stroke; (3) a *pick*, if intended for piercing. The following parts may be distinguished in an axe or adze: the *grip*, the *haft*, the *head* of the haft (usually in composite weapons only), the *blade*, and the *edge* or *point*. The adze is very rarely used as a weapon.

Axes, adzes, and picks may be either *solid*, made all in one piece, and so passing over into beaked or sharp-edged clubs or *composite*, in which case note especially besides queries above, how the blade is fitted to the haft, whether (1) by bending

a pliable stick round the blade so as to grip it; in such a case, is the blade grooved or notched to receive the stick, or is an adhesive used to strengthen the fixing? (2) by a tang or spike entering or passing through the head of the haft; (3) by a socket into which the bent head of the haft fits; (4) by a hole through which the haft passes, or a socket into which the head of the haft (which in this case is not bent) is fitted; or (5) by any other method. Have any of the axes an elastic or flexible haft?

(4) *Spears* include all long-hafted weapons used to pierce with a thrusting or stabbing action. (v. *Throwing-spears*, p. 237.) Like clubs and axes, they may be divided into solid or composite. A solid spear is either quite plain, or, if it has parts, they can be best described in terms of a composite spear after noting the fact that the weapon is "cut from the solid." The parts of a composite spear may be (a) the head; (b) the fore-shaft; (c) the shaft; (d) the butt; (e) the counterpoise; and (f) the sheath.

(a) The *head* may be composed of (1) a blade or point; (2) a shank; (3) a socket or a tang. In the *blade*, the following points should be noted: the number of blades or points, and how arranged; the outline (triangular, leaf-shaped, lozenge-shaped, or spatulate, when the greatest width is nearer to the point than to the shank; etc.); the presence or absence of a *mid-rib* between the wings or flat margins of the blade, of grooves or openings in the thickness of the wings, and of barbs; the transverse section of the blade, and of the cutting edges, whether convex and wedge-shaped, or concave (sometimes called "hollow ground"). Note whether barbs are cut from the solid, or affixed; give their total number; their arrangement (alternate or irregular, unilateral, bilateral, trilateral, etc.). In the *shank*, note (as above) the section, the presence or absence of barbs. The spear-head may be secured to the shaft either by a *tang* or spike which penetrates the shaft or is lashed to one side of it, or by a *socket*, which is itself hollow and encloses the end of the shaft. Note how the head is secured to the shaft or foreshaft, whether by accurate fitting or by gum, binding, nails, or rivets.

(b) *The fore-shaft*, where present, forms a connecting link between the socket or tang and the main shaft; note the section and the method of securing to the shaft, and whether (if the head has a tang) the fore-shaft has any binding or collar to prevent splitting. Is the fore-shaft of heavier material than the shaft?

(c) *The shaft*; note the section; the presence or absence of binding (as above), or a "grip" for the hand; the decoration.

(d) *The butt* is a separate protection or fitting on the proximal end of the shaft. Note the outline (spiked, spatulate, bifurcated, etc.); the section; whether it has a socket or a tang; how it is secured to the shaft.

(e) *The counterpoise* is usually alternative to a butt, and may be a knob cut from the solid on the shaft itself, or some heavy object attached to it. Note the method of attachment.

(f) *The sheath*, when present, protects the point or cutting edge.

Describe how the spear is used, and how it is carried when not in use; also whether it is used in conjunction with other types of weapons.

(5) *Swords* are designed either for cutting or for piercing, or both; the centre of balance of the weapon is almost always nearer the hilt than the point; they may be divided into (a) solid and (b) composite, each class being subdivided into (1) cutting swords (*broadswords*, *cutlasses*), and (2) thrusting swords (*rapiers*).

The parts of a sword are (a) the blade; (b) the guard; (c) the hilt, with its pommel or counterpoise; (d) the sheath.

(a) *The blade* may be described in the same terms as a spear-head, but note whether it is designed for cutting or thrusting, or for both; if for the former, note the extent and form of the cutting edge, whether there is more than one cutting edge. Describe how it is fastened to the hilt (by spike, or tang reinforced by gum, binding, nails, or rivets).

(b) *The guard*, if present, may be a spur or cross-piece, or sometimes it forms part of the blade; if it is a separate piece,

state how it is fastened to the blade or hilt: or a more or less concave shield for the hand, sometimes very elaborate, as in the "basket-hilt" and "cup-hilt." The "counter-guard" unites the guard and the pommel.

(c) *The hilt* may be subdivided into (1) the grip and (2) the pommel. The *grip* has its own outline and section; note whether it is roughened or furnished with a binding to prevent the hand slipping, or with a wrist-loop, or other contrivance to prevent it flying from the grasp. The *pommel*, or knob, serves the double purpose of a counterpoise and a stop to prevent the hilt from slipping through the hand; note the material and shape, and if it is a separate piece, state how it is fixed to the grip.

(d) *The sheath*.—Describe fully the material, manufacture, outline, section, ornaments, and fittings, especially the rim and the *chape* which guards the point, and the method of attachment, if any, to a belt or baldric.

Describe how the sword is carried and on which side of the body; how drawn; how used (with one or both hands). Do the first, or first and second, fingers grip the cross-guard? Is it used in conjunction with other weapons?

(6) *Knives* may be divided into (a) *Knives* proper, for cutting; (b) *Knife-daggers* for a cutting-thrust; (c) *Stiletto*s, for thrusting only. State whether they are used with or without poison; if with poison, describe the materials and method of preparation (v. *Poisons*, p. 347). For the parts of a knife, (v. *Swords*, p. 235).

(B) MISSILE WEAPONS.—Practical tests should be arranged and statistics collected to show both the extreme and the effective range of each kind of missile, and also the accuracy with which they are used (v. *Physical Powers*, p. 12). Missiles may be classified as follows:—

(i) *Natural Objects*, such as pebbles, are sometimes selected for size, shape, and weight.

(ii) *Worked or Manufactured Projectiles*, sling-stones, stones thrown from the hand, and native-made pellets and bullets, and other projectiles for pellet-bows or firearms should be noted.

(iii) *Throwing-clubs* are either clubs proper or boomerangs.

The clubs proper should be described in the terms of (A), pp. 232, 233.

Boomerangs are curved and flattened throwing-clubs, some of which, when thrown, describe certain evolutions in the air and return to the neighbourhood of the thrower; they are invariably flattish (flat, plano-convex, biconvex) in section, and curved in outline, and in returning boomerangs the surfaces do not always lie in the same plane, but have a slight spiral twist. Describe fully, with diagrams where possible, the method of preparation, of holding, and of throwing; the course taken by the boomerang in the air, noting especially whether they return to or towards the thrower; the range; whether they are used for practical purposes or only for amusement. Collect specimens of which you have observed the flight, and learn to use them yourself.

(iv) *Throwing-spears* form a large class, including all javelins, harpoons, darts, or arrows, differing mainly in size and mode of propulsion.

(a) *Javelins* (or throwing-spears proper) may be described like other spears, p. 234; but note in addition:—(1) Whether there are “wings” at the butt-end to assist the flight of the weapon; their material, shape, position, and method of attachment; (2) the presence of any loop, notch, or other appliance attached to, or forming part of, the shaft, to assist the act of throwing; (3) the method of holding and throwing, and the range and accuracy (*v. Physical Powers*, p. 12); whether the points are notched so as to break off in the wound; or poisoned, p. 347.

(b) *Harpoons* include *Retrieving-javelins* and *arrows* in which a cord is attached to the shaft, so that the spear or arrow may be recovered after being thrown; and *Harpoons* proper, which are spears of which the head is removable, and usually connected with the thrower or with a float by a long line of cord, or with the shaft by a shorter one. The parts of a harpoon are (1) Head, with blade, shank, and socket or tang; (2) Fore-shaft; (3) Shaft; (4) Butt; (5) Wings; (6) Line with Buoy or Float. For the Head, Fore-shaft, Shaft, and Butt, see *Spears*, p. 234, but note also how the lines which

communicate with the thrower and with the shaft are attached, and how the head is fitted to the shaft and released from it. Describe also the wings, if present; the material, make, and length of the lines; the buoy, if present; its nature and method of attachment. Does the shaft itself when detached act as a buoy or drag?

(c) *Darts* are made small enough to be projected from a blow-tube, p. 239, and consist of a shaft, which may be simply sharpened, or furnished with a head or point of some other material. They are furnished with a butt of pith, leaf, etc., which fits the tube, or with a packing of cotton, feathers, or other soft substance, fastened round the shaft.

(d) *Arrows* include all small missile spears designed to be propelled from bows, p. 239. These may be described in terms of Spears or Harpoons. Note further (1) *wings* or *feathers* added to steady their flight; their material and number; their position, straight or spiral; and the method of preparing and affixing them; (2) the *nock* or *notch* for the bow-string; its shape, depth, and binding; also whether the notch is cut in the end of the shaft-butt itself, or in a plug of harder material inserted in the butt. Describe how the arrows are carried: in the hand, hair, belt, quiver; how the *quiver* is constructed, and how it is carried and attached to the body; whether it forms part of the bow-case; and whether it is furnished with a point to stick in the ground.

(v) *Throwing-knives* are in some cases simply knives which are thrown, and should be described in terms of *Knives*, p. 236. Others are of extremely complicated outline, with many blades and edges, and need a sketch to explain their form.

(C) APPLIANCES FOR HURLING OR DISCHARGING any of the foregoing missiles, so as to attain a longer range than with the hand and arm; some of these appliances are attached to the missile; most forms are not themselves thrown, but remain in the hand of the thrower.

The principal appliances are flexible spear-throwers, rigid spear-throwers, slings, blow-tubes, bows, and firearms. (a) *Flexible spear-throwers* or *throwing-cords* are attached to some portion of a javelin either temporarily, so as to be retained

by the user, or permanently, in the form of a loop fixed to the shaft and accompanying the javelin in its flight. (b) *Slings* may be used for sticks, stones, or artificial bullets. In all cases note the material, dimensions, all knots and loops, and the mode of use. How are the cords affixed to the javelin and how released? In slings, what ammunition is used, and how is it released?

(c) *Rigid spear-throwers*, sometimes called "throwing-sticks," are used to add length to the arm and effectiveness to the grip. There is usually a *peg* at the end of the spear-thrower to fit into a cup-shaped hole at the butt-end of the javelin; note the material of the peg and whether it is cut from the solid or affixed (describe the fixing); note outline, section, grip, method of holding. If, as in some cases, there is a socket to receive the butt-end of the javelin, note its shape, depth, position. Does the spear-thrower serve any other purpose than spear-propulsion, *e.g.*, as a tool, or in fire-making?

(d) *Blow-tubes* through which darts are propelled by the breath of the operator may have two parts, *tube* and *mouthpiece*, each of which should be described and classed according to material; a length of hollow reed or bamboo may form the tube, but in some cases the tube is bored in a solid wooden rod; note the manner in which the bore is produced, the length and calibre, and the binding, if any. Some blow-tubes have a delicate inner tube protected by a stronger sheath, or the tube may be made up of two grooved halves. Any other method of construction should be recorded. If *sights* are used, describe their material, method of attachment, and position on the tube. Is a spear-head attached to the muzzle-end of the tube?

(e) *Bows* have the following parts: the stave comprising the grip, the limbs, and the horns, the string. The *belly* of a bow is the surface facing the archer when drawing the bow; the *back* is then remote from the archer. Note dimensions and form of the curve; the form of the stave of the bow; the section at various points; the method of construction. Bows may be classified as:—(1) Plain or "self" bows; (2) Compound bows; (3) Composite bows; (4) Pellet-bows; and (5) Cross-bows which may be of any of these four kinds.

Bowstrings, methods of release, bracers, and gloves need separate treatment.

Plain bows are made of a single stave, of which the natural elasticity is not reinforced by any foreign substance. It is important to note the section of these bows.

Compound bows are built of more than one piece of the same class of material—*e.g.*, a bow of hickory “backed” with yew.

Composite bows are built of two or more different elements which combine to make a resilient shaft—*e.g.*, reinforced with sinew, or layers of horn, wood, whale-bone, and the like, usually combined with sinews. Where a “backing” of sinew is used, is this in the form of cords or is the sinew moulded in layers upon the surface of the stave? Such bows should be described constructively, following the method of manufacture. Special note should be taken of the form they assume when unstrung (reflex curve). Thin transverse slices cut from composite bows are essential for detailed examination.

Pellet-bows are adapted for bullets or pellets instead of arrows. Note specially besides the form of the stave, whether single or double, plain, compound, or composite, whether the string is double or single, how the pellet is held, and the position of the pellet-holder in relation to the grip of the bow. What is the material of the pellets?

Cross-bows have the stave fixed transversely to a *stock*. The stave may be plain, compound, or composite as above. Note the material and form of stave and stock, and also particularly the devices whereby the bow is bent and the string held and released, and the kind of missile.

Bowstrings may usually be described in terms of STRING, p. 263. Note the materials and method of preparation; how is the string fastened to the bow; by a hole or eyelet; or resting in notches cut in the horns; or on stops cut from the solid or affixed, etc.? Is the end of the string looped? Is it attached directly to the bow, or indirectly, *e.g.*, by being spliced to some other material? Is it protected by a binding at the point where the arrow rests? Note the special

arrangement for holding pellets in pellet-bows. Describe all knots and loops, and especially the process of stringing the bow.

Grasp and *Release* should be noted fully, and the observer himself should learn the whole use of each kind of bow. As to the *left hand*, note how the bow is held—perpendicular, horizontal, etc., the position of the fingers in shooting; on which side the arrow rests; the distance of the arrow-head from the bow when fully drawn. As to the *right hand*, note carefully the exact position of the fingers in drawing the bow.

In the so-called *primitive release* the bow is drawn by the arrow being held between the thumb and first finger, which do not press on the string; in the *secondary release*, the arrow is held between the thumb and second joint of the first finger, the tip of that and any other finger resting on the string; in the *Mediterranean release*, three fingers are placed across the string, the arrow is held lightly between the first and second, the thumb not being used; in the *Oriental release*, the thumb is laid across the string, with the first finger across the thumbnail.

Accessories.—Where the Oriental release is used, note whether any *ring* or other object is worn on the thumb to protect it and to assist in drawing the bow; describe the ring and how it is used. Sometimes a bow is drawn with the assistance of the feet, or of a ring-handled dagger, or other appliance; in all cases note at what point on the string the arrow rests. *Gloves* are sometimes worn on the right hand, to prevent the fingers from being chafed by the bowstring; any other form of protection which has the same object may be described under this heading. *Bracers* are shields or bracelets worn on the left arm or wrist for protection.

(d) *Firearms* are just as much a part of the equipment of the people who use them as any older or simpler kind of weapon. Firearms, not of familiar European makes, should be examined carefully: note especially whether the people either make or can repair firearms; whether they make their own bullets, or shot, or gunpowder? Where do they obtain the materials? Describe the processes and obtain samples, if possible. What kinds of firearms are used?—pistols for one hand only; guns requiring both hands; cannon, on portable

carriages or stationary mountings? Are the barrels rifled? Is anything done, or attempted, to diminish the noise of the explosion? What kinds of lock-mechanism are used?—matchlock, flintlock, percussion-lock? Note the outline of the stock, grip, butt, and trigger-guard, form of the device for sighting, the posture and gestures of loading and shooting, the range and accuracy of fire? Are there hand-grenades, bombs, or other explosive missiles or projectiles? Is a rest used to support the longer guns? Note, and, if possible, collect, accessories such as powder-horns, tinder-boxes, measured charges, cartridge-cases. Is there any kind of bayonet or other muzzle-spear?

(e) *Capturing Weapons*.—The *Lasso* and *Bolas* are missiles intended to entangle rather than to injure. The *Lasso* is a running noose thrown so as to encircle the quarry. In some instances the noose is attached to the end of a long pole. Describe the material of the line; its preparation and manufacture; all knots, splices, and loops; how it is attached to the thrower; the method of casting. At what quarry is the lasso thrown? The *Bolas* consist of one or more weighted cords. When thrown, the cords become wound round the quarry and so prevent escape. Describe as above, and add full particulars of the weights, their number, their attachment, and the action of throwing. Are feathers attached to the opposite end to act as a drag? Against what quarry are the *bolas* used? Other Capturing Weapons may be in the form of a cane loop at the end of a rod, or of a forked spear with hinged barbs.

II. *Self-acting Weapons*.—(1) *Stakes* and *spikes* are pointed instruments fixed in the ground with the object of wounding an advancing foe or their horses; *calthrops* are objects with a number of spikes or points so arranged that, when thrown upon the ground, one or more is always upwards. Describe the material; form and construction; method of use; where they are usually set; are they used with poison?

(ii) *Traps*.—The trap mostly used in war is the pitfall, with sharpened stakes at the bottom; others correspond with one or other of the patterns mentioned (v. HUNTING, p. 224).

III. *Weapons of Defence.*

Weapons of defence are usually designed for the protection of the individual; but occasionally they offer cover for more than one person. Most defensive equipment has developed out of the ornaments or clothing of the individual; but a distinction may be drawn between those articles of *body-armour* which are assumed on entering a fight with the express intention of protecting the body, and those which are worn habitually and yet are a protection. Note also separately those ornaments which are used with a view to dazzling the enemy and disconcerting his aim, and accoutrements, such as masks, calculated to produce a terrifying effect, but sometimes combined with protection. Among the defensive ornaments may be mentioned:—forms of hair-dressing; neck ornaments, armlets, and belts which protect either by their number or size. All these should be described in terms of ORNAMENT and CLOTHING, pp. 201, 203.

The principal categories of *body-armour* are helmets or head-armour, with or without face protection; cuirasses or body-armour; brassards and gauntlets, to protect arms and hands; greaves and other leg-armour; special protection for the feet; panoplies or complete suits of armour.

Parrying weapons are to protect the user by deflecting the offensive weapons of the foe. Considerable variety is found, such as parrying-sticks or clubs held in the hand; parrying-shields; shield-like weapons, the primary function of which is to deflect an offensive weapon rather than to afford shelter from it; pieces of wood bound to the forearm. Parrying weapons often resemble offensive weapons, and should then be described in terms of the weapon they most resemble. In the same category may be included weapons which are employed to render the enemy's weapon useless.

Shields are intended to afford portable shelter to the whole body or part of it. Observe the material or materials; shape and size, outline and section at different points (with diagrams); construction, solid or composite; the method of manufacture, especially in the case of composite shields; the method of holding; the nature of the handle (loop or bar);

its position, horizontal, perpendicular, etc. ; in which hand is it held ? how is it manipulated in action ? Note any designs or other ornament on the face and back, and native accounts of their meaning.

For the defence of groups of individuals, there are :—(a) *Movable screens* and large shields, which should be described, with diagrams, and notes of the method of transport, and of the number of men which each screen can protect. (b) *Fixed defences*, including earthworks, entanglements, moats, breast-work and palisades, forts and the like, and pile-dwellings or tree-huts occasionally. The materials and method of construction of any of these should be described fully ; plans and sections, and elevations should be given, and some idea of the localities where they are erected, and their access to a water supply ; buildings, such as forts, may be described in terms of HABITATIONS and EARTHWORKS, pp. 205, 368.

RECEPTACLES FOR FOOD, DRINK, ETC.

Gourds, Coconuts, etc.—The use of natural objects, with little or no modification in form, as receptacles for food, drink, and other substances, is widespread amongst backward peoples. Mention may be made of the rinds of gourds, the shells of coconuts, and the like ; lengths of bamboo stem may be used, and some bark-vessels are made with very little constructive effort. Bottles, bowls, beakers, ladles, and other forms may be noted, and in all cases the provision of handles, necks, spouts, basal supports, slings, and mounts should be recorded. Decoration by carving, engraving, burning, painting, inlaying may be present, and the designs as well as the technique are important. Observe what plants are made use of, and whether they are cultivated or not. Gourds intended for use are often given an artificial shape by bindings applied during growth, and the methods employed deserve study. In all cases it is important to note how the fruit or other product is obtained, and prepared for use, and what tools are employed.

Wood.—Similar considerations apply to the use of wood for

making into receptacles, and here the processes of shaping are necessarily more arduous, calling for the application of better tools. Where two or more pieces of wood are fastened together to form a dish or bucket or beaker, close attention should be given to the fitting together of the parts, and their attachment by means of pegs or stitches.

Shells, Horns, Skin, etc.—Animal products, mollusc shells, horns of sheep and oxen, egg-shells of the ostrich, need little or no modification, though horn spoons and ladles call for carving out and, perhaps, for shaping by means of heat. Skin-vessels may be made from practically the whole skin of an animal, and here the details of skinning, stopping up apertures in the skin, and preserving or tanning, are important (v. SKIN-DRESSING, p. 261). Skin-vessels may be made from the intestine or bladder of an animal, and even fish-skin may be used. Bags and cases of tanned hide or of leather are sometimes met with.

Stone.—Receptacles of stone are not common, though stone mortars are widely distributed. Nature and origin of the stone, how quarried and how shaped, together with the forms and decoration are the important points for record.

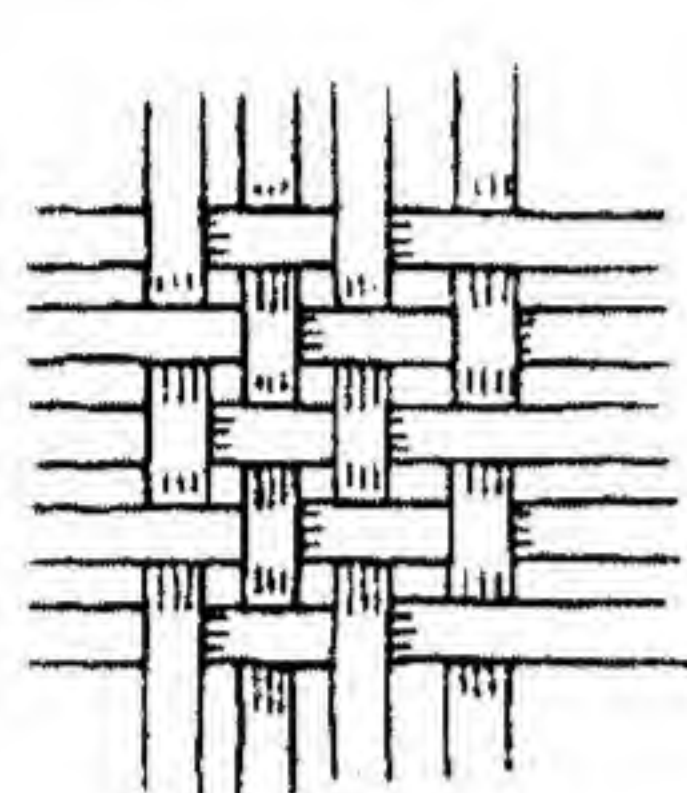
In the case of all receptacles care should be taken to distinguish between those which are used for food or drink, or for special varieties of food or drink, and those used for other purposes. Some vessels may be used for cooking food over the fire, others only on ceremonial occasions, others only by special persons or classes, whilst yet others are mainly or entirely of decorative value.

BASKET-WORK

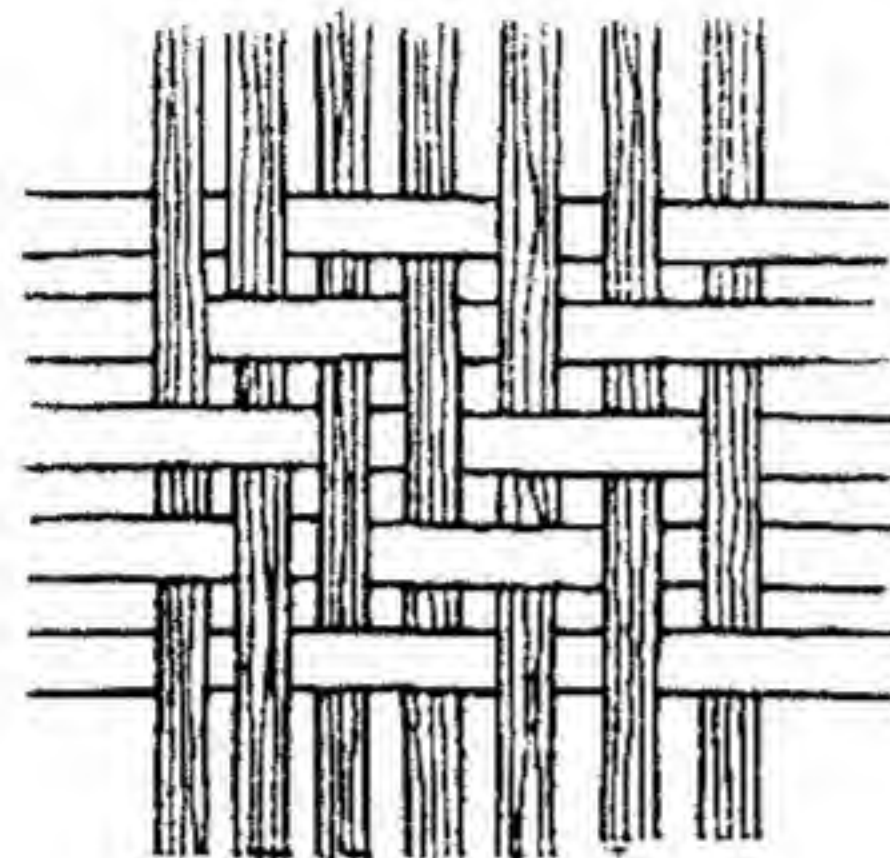
Basket-work is a convenient, though ill-defined term, including not only actual baskets, but also wattlework, matting (often indistinguishable from woven fabric), and ornamental plaitwork. Basket-work is linked on the one hand to netting and knitting, but differs from these in the absence of mesh or pins, and (except in single element work) in the use of two or more sets of interlacing elements or wefts. It

differs from weaving by the more general use of unspun material, and by the absence of a frame or loom. Basket-work may be (A) *Plaited* (also termed Woven) or (B) *Coiled*.

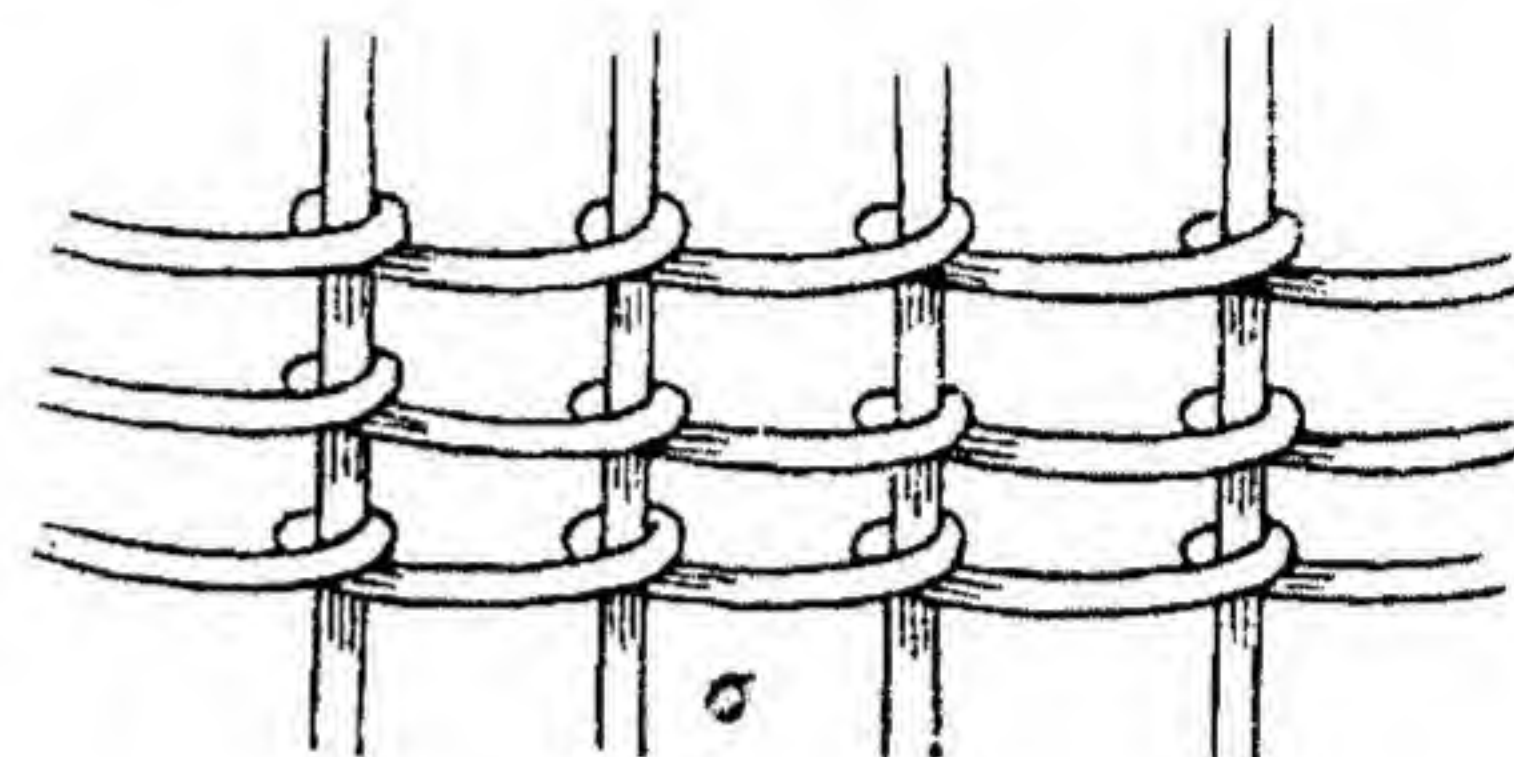
(A) *Plaited* basket-work is made by the crossing of two or more sets of elements, called (by analogy with weaving) warps



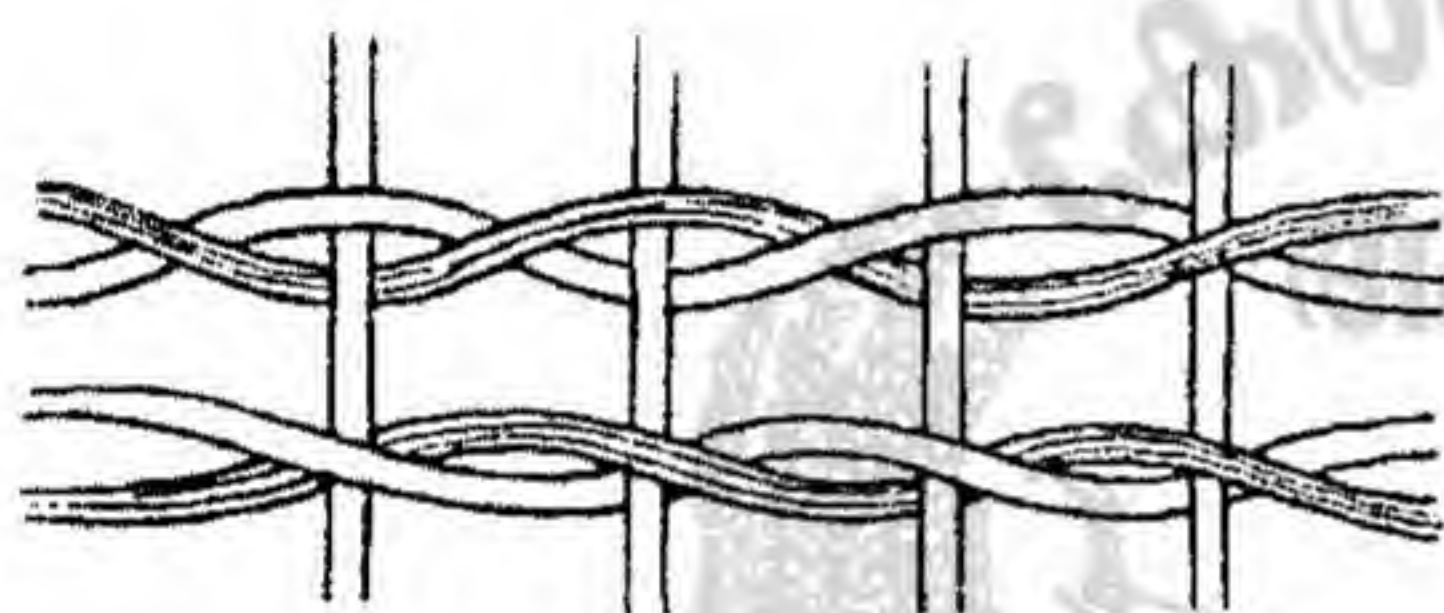
A. 1. Check.



2. Twilled.



3. Wrapped.

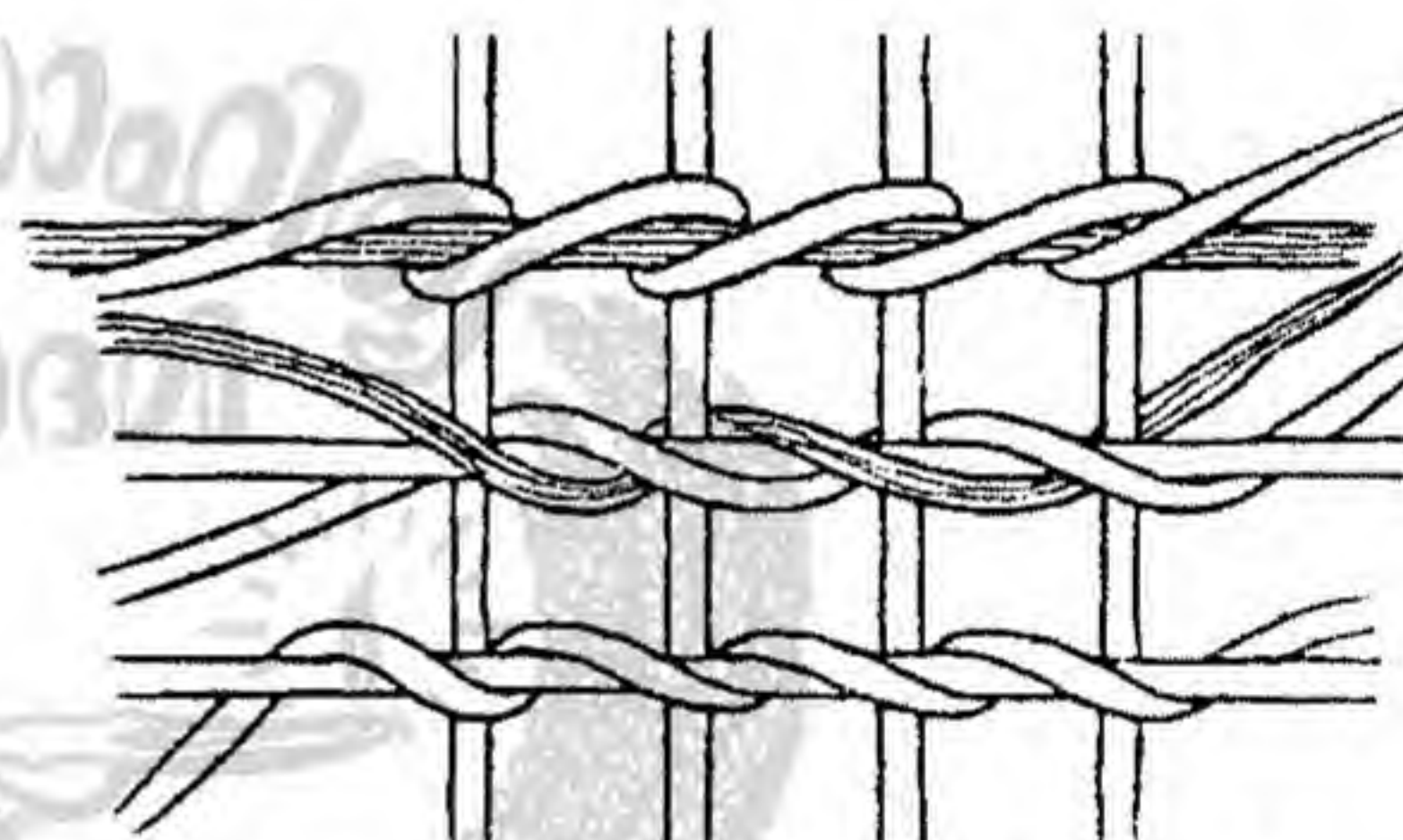


4. Twined.

(a)

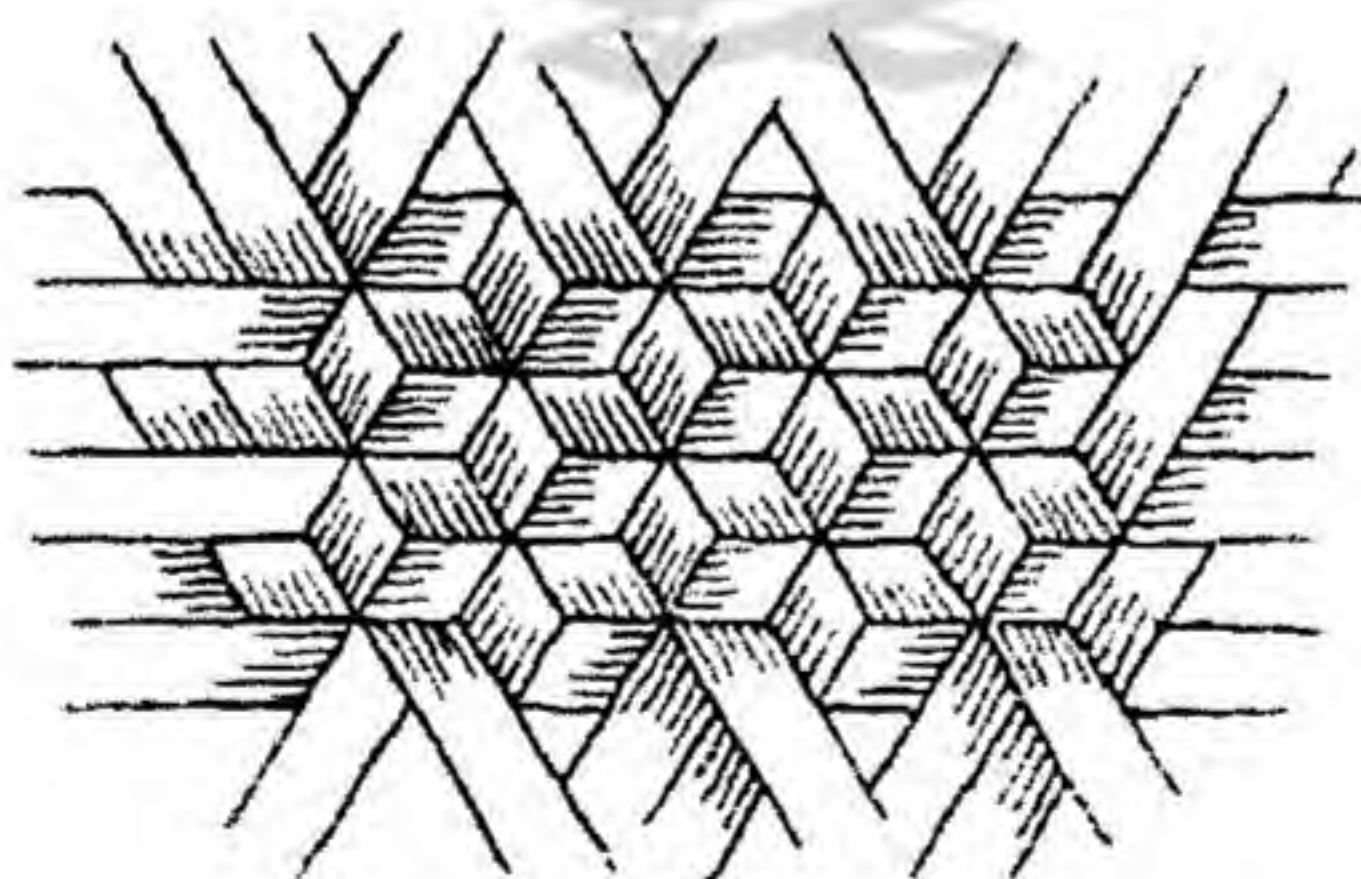
(b)

(c)



(a), (b) Lattice-Twined.

(c) Wrapped-Twined.



5. Hexagonal.

and wefts, although, when the warps are indistinguishable by rigidity or direction, both sets of elements may be called wefts.

The main varieties of plaited basket-work are: (1) *Check*, in which the warp and weft pass over and under each other singly, as in woven cloth. (2) *Twilled*, in which each weft passes over and then under two or more warps, producing by

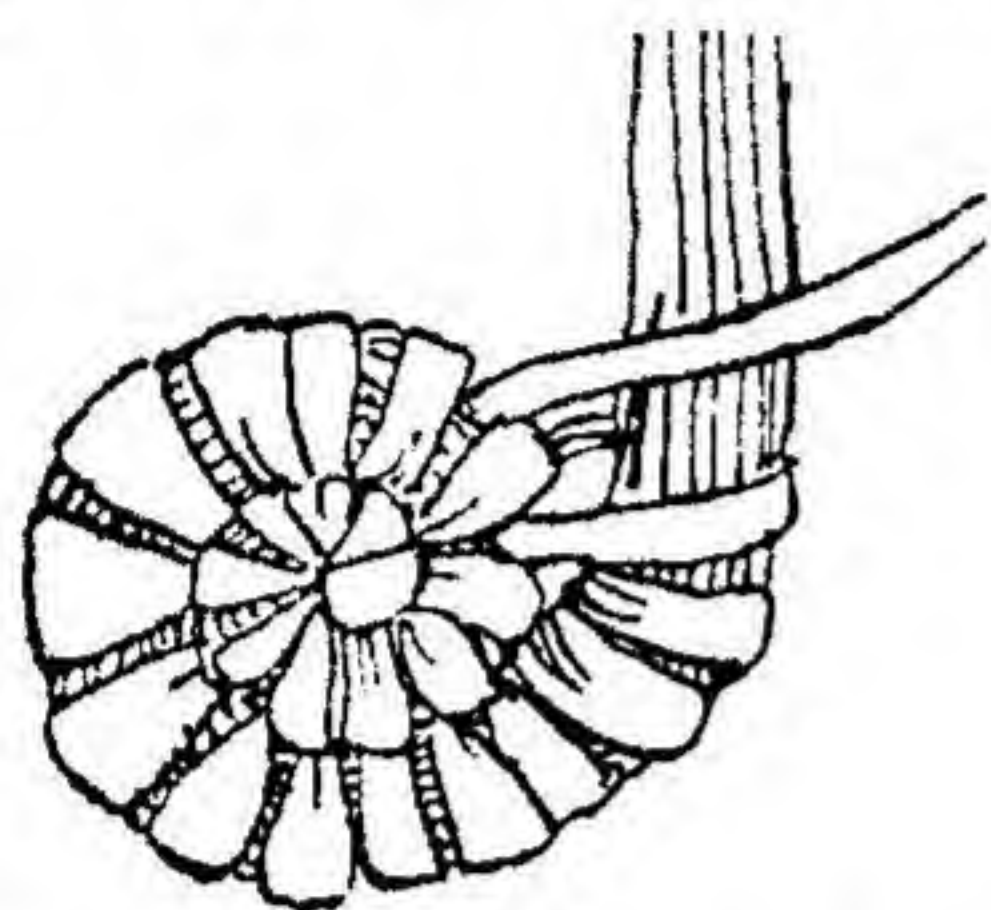
varying width and colour contrasts, an endless variety of effects. (3) *Wrapped*, in which flexible wefts are wrapped round (take a circular bend right round) each warp in passing. (4) *Twined*, when two or more wefts pass alternately in front of and behind each of the warps, crossing them obliquely. Twining with two or three wefts is technically termed *Fitching* and *Waling* respectively. There are many varieties in twined work, plain-twined (just described), twilled-twined, when two warps are passed over each time; while warps may be upright, crossed or split. In wrapped-twined, "bird-cage" or lattice-work, the foundation consists of both horizontal and vertical elements, often rigid, at the crossings of which the weft or wefts may be twined or wrapped. In finished specimens wrapping and twining are often indistinguishable on the outer surface, though usually distinguishable on the reverse side. (5) In *Hexagonal* work the wefts, instead of being horizontal and vertical, are worked in three directions, forming in open work hexagonal spaces, in close work six-pointed stars. In *Wickerwork* the warps or stakes are rigid, and the more flexible wefts or rods bend in and out. Check, twilled, and twined strokes may be used, but this ancient craft has its own peculiar vocabulary. In *Wattle-work* the stakes are planted in the ground.

(B) *Coiled* work is not linked with weaving, but with sewing, and it is usually done with a pointed implement which makes a hole through which the weft is passed. The technique consists in sewing together in a flat or ascending coil, a spiral foundation of cane, grass, leaf strips, fibres or other materials, and the following are the commonest stitches.

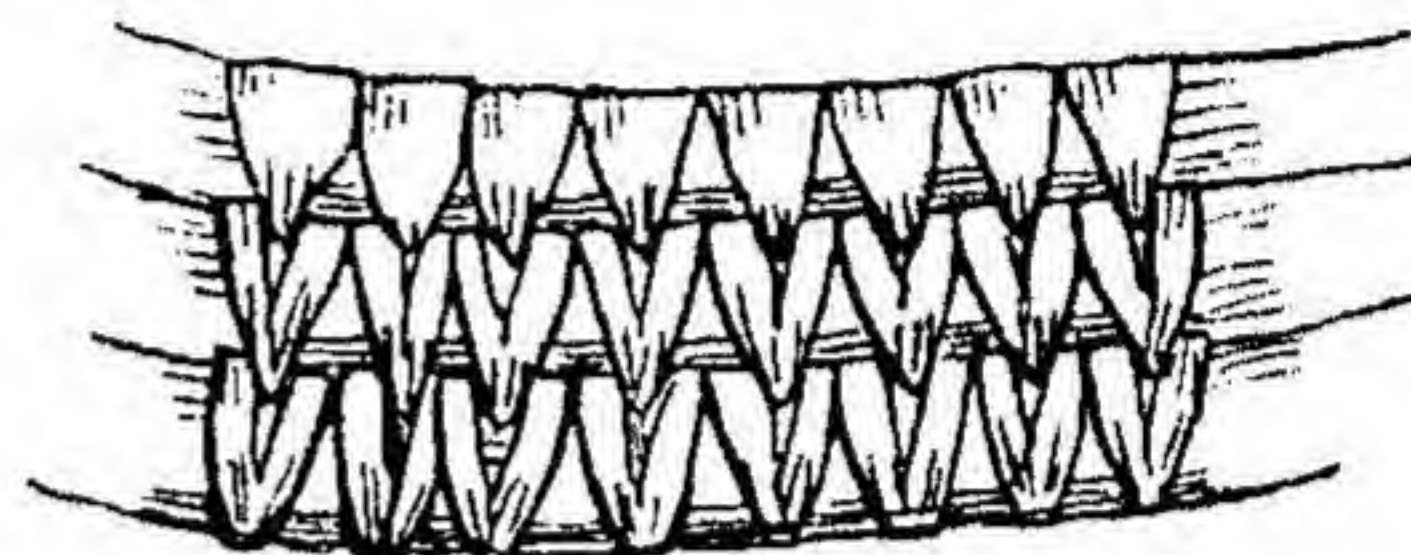
(1) *Simple oversewn coil*.—Each stitch passes over the new portion of the foundation coil, and pierces a portion of the coil below. (a) *Furcate coil*. If the new stitch splits the stitch in the preceding coil, a forked effect is produced, having a superficial suggestion of chain-stitch or crochet. The stitches usually lie closely side by side, covering the foundation, but with the same technique an entirely different effect can be produced as in (b) *Bee-skep coil*, when the stitches are spaced widely apart, connecting the coil at intervals, each stitch

passing just behind, and appearing to emerge from, the stitch in the coil below.

(2) *Figure of Eight*.—The surface shows the same effect as



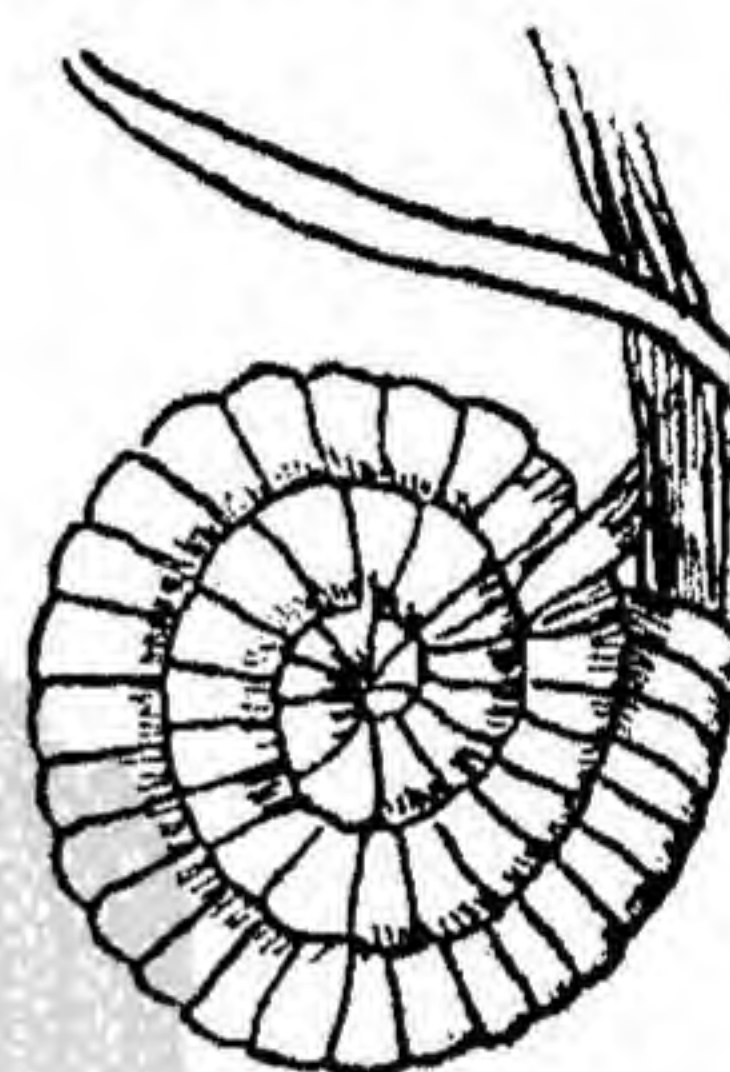
B. 1. Simple oversewn coil.



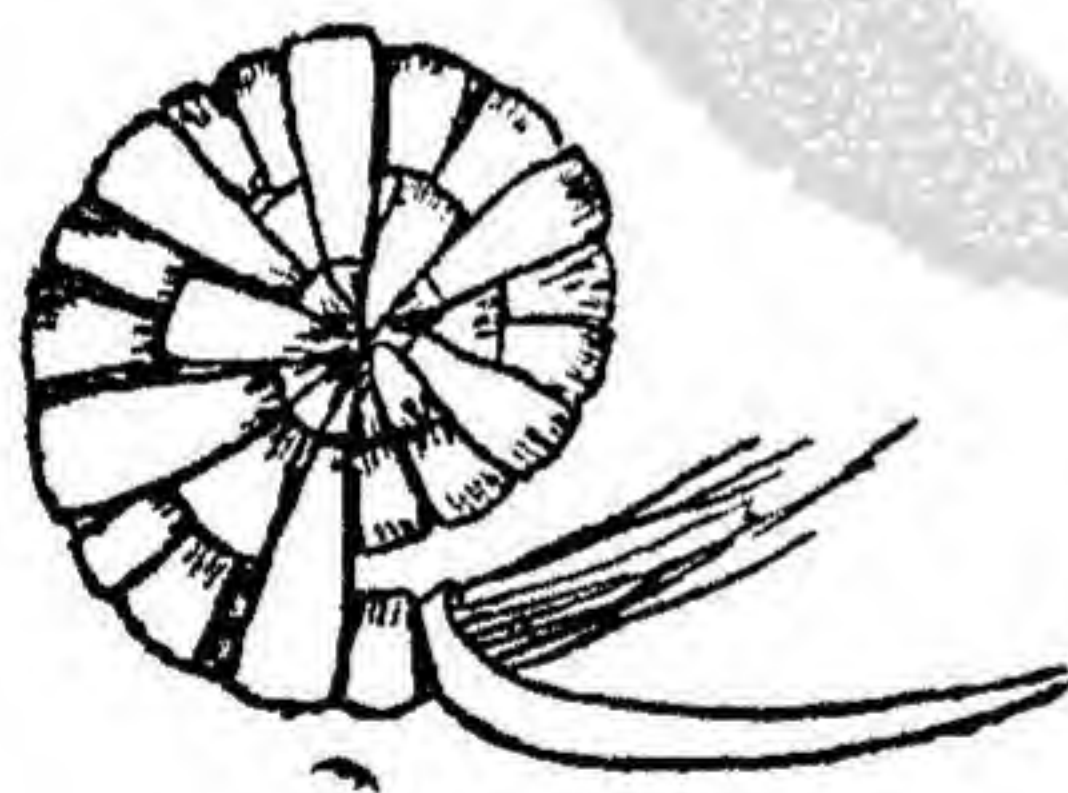
(a) Furcate.



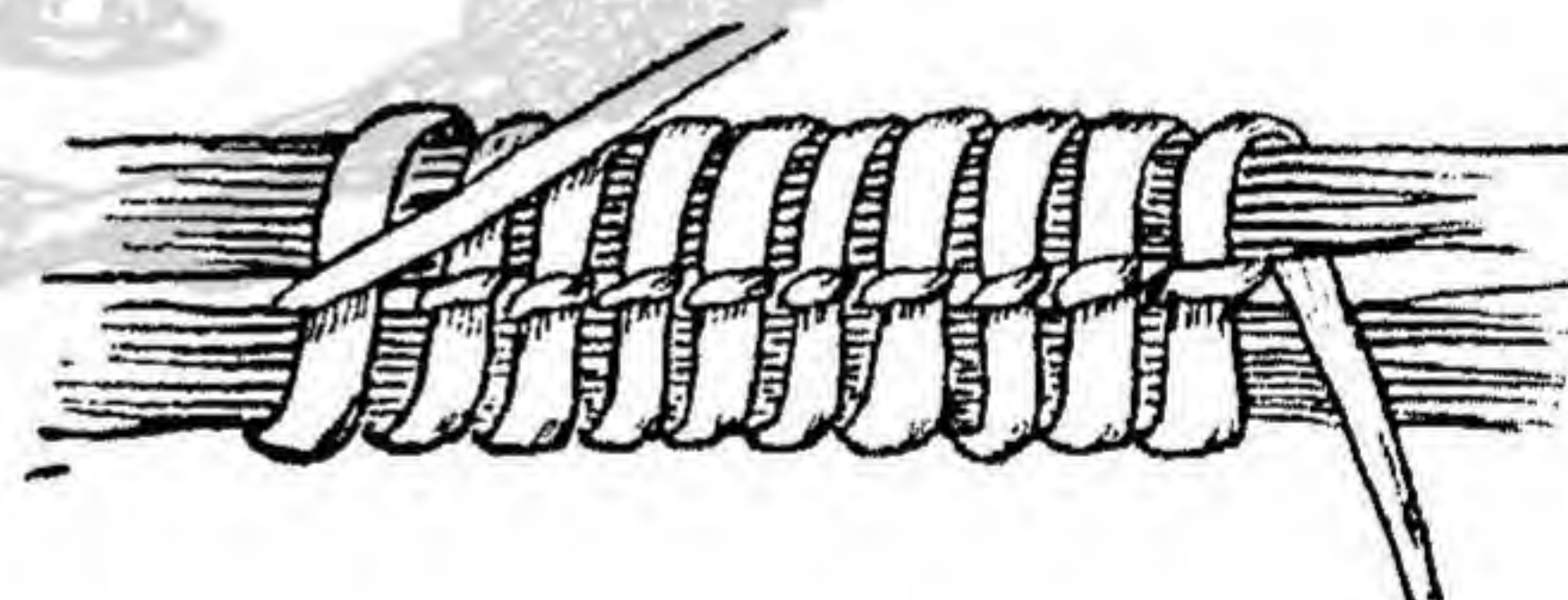
(b) Bee-skep.



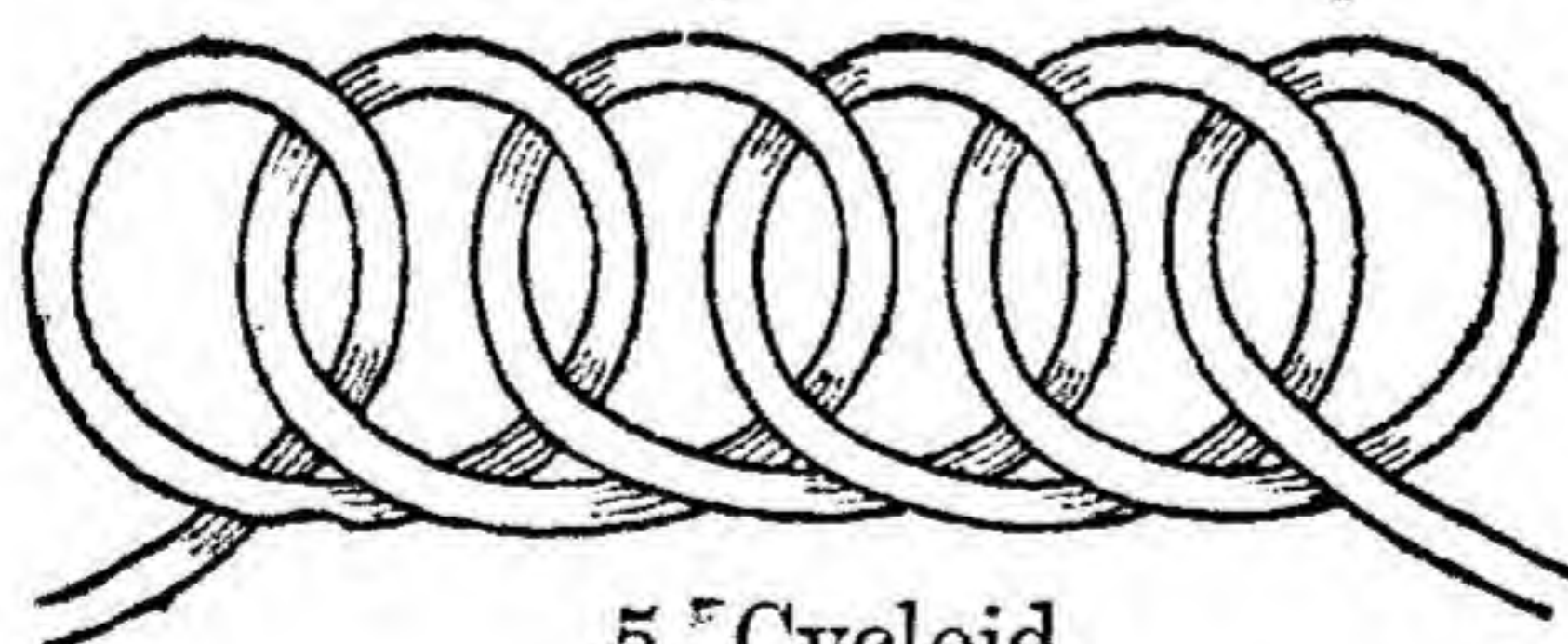
2 Figure of Eight.



3. Lazy Squaw.



4. Crossed figure of Eight.



5. Cycloid.

simple oversewn coiling, but each stitch actually encloses two coils in a figure of Eight. The stitch passes behind, up and over, and down in front of the new coil, then behind, down and out under the preceding coil. Also called "Navaho."

(3) "*Lazy Squaw*."—The conspicuous feature of this is the long stitch passing over two coils at once. The sewing passes in front, up and over the new coil, winding right round it once, twice, or more times as desired; then it passes behind and down under the preceding coil, and right up over the new coil, making the characteristic long stitch.

(4) *Crossed figure of Eight* or "knot stitch." The stitch passes in front up and over the new coil, and behind, down and under the preceding coil, as in the long stitch of "lazy squaw," but the sewing is brought out between the two coils, to the right of the last long stitch, which it crosses, giving the appearance of a row of knots between the successive coils.

(5) *Cycloid* or single-element work may be grouped with coiled work, but there is no foundation, the coils, usually of cane or similarly independent material, being coiled or looped into each other. This is especially characteristic of the Malay area.

Matting forms a link between basket-work and weaving, and it is often impossible to tell from a finished specimen whether it has been plaited by hand or woven in a frame. If the mat is worked diagonally it is started at one corner and plaited like a basket in the same technique: check, twilled, etc. If it is worked horizontally, the warp elements may be arranged parallel to each other, and the weft elements inserted as the work proceeds. Both mats and baskets are also made from flat plaits the edges of which are attached side by side. When the warp for a mat is stretched on a frame or hung from a horizontal bar, the process is the same as that of weaving p. 266, though the threading, as in primitive looms, is usually done by hand, not by a shuttle.

Specimens of every kind of basket and mat should be obtained; with materials, raw, and in various stages of preparation; and tools; photographs of the processes; half-finished specimens to illustrate technique; and all native names. Baskets which have contained food, etc., should be carefully cleaned. Notes should be made on the materials, whence obtained, whether wild or cultivated; the preparation of the materials by storing, drying, peeling, splitting, twisting, soaking, gauging, colouring, etc.; the processes

and apparatus of manufacture; the sex and status of the makers; the designs and symbolism with their names and meanings, and uses of the finished work. Also any rites or observances connected either with manufacture or use of baskets or mats.

POTTERY

Many primitive peoples make pottery. Some, though they cannot, or do not, make pots themselves, are acquainted with pottery, and even import pots ready made. Others export pots of their own making. In all cases of importation or exportation note the source of supply (or the destination), the mode of transport and traffic, and the names of each kind of vessel. As in the case of other arts and crafts, there are often traditions or legends as to the origin of pottery, the first potter, decoration of pottery; and beliefs regarding the use or abuse of pottery. Instances of absence of knowledge of pottery-making should be noted and the reasons ascertained.

Among some peoples, each family, or a member of it, makes its own pottery; in others, pot-making is reserved to particular families, or to a caste, class, or sex.

The kind of clay, and its source, should be noted, and samples obtained both of the raw clay, and of any substances, whether mineral or organic, which are mixed with clay or substituted for it in any kind of pot-making; of each variety of prepared clay when ready for the potter, and of all slips, paints, varnishes, glazes, or other substances which are applied to the surface to close the pores of the clay, or by way of ornament. Note the reasons given for each process and for the use of each ingredient and—though such effects do not necessarily tally with the reasons given—its observed effects.

The process of making the pots should be described in detail. The principal methods of pot-making are (*a*) *lining or coating a mould* with clay; the mould may be made specially, or it may be some other object, such as a basket or gourd. Some primitive potters begin all their pottery in a basal

support of this kind ; others, though this is rare, keep the clay in a perishable mould until this is burned away in the firing ; (b) *modelling* a single lump of clay by hand, often with the aid of simple tools, for part or the whole of a vessel ; (c) *building-up* the pot in one or more of a variety of ways, the most widely distributed of which is the *coiling* method, which involves the use of long or short rolls or pencils of clay, which are ranged upon each other, and pressed into union, in such a way as to shape the pot from the base upwards, all traces of the coiling being usually smoothed out before firing : other building methods involve the use of thick rings of clay, or slabs bent round to the form of a cylinder, or of various combinations of the moulding and modelling methods ; (d) *throwing* a lump of clay on the *potter's wheel*, which may range from a simple disc or spoked wheel (*tournette*), to a double wheel consisting of one disc above another, on a common axis ; such wheels may be spun by the hand, by the foot, or by an assistant, and the more advanced types lead up to the wheel which is driven by transmitted power. Examples, or models, or at least drawings, should be obtained, of all such wheels ; of all tools and gauges used in shaping the pots ; and photographs of the potter in the act of using each of them. If possible, the different stages in the manufacture of a given type of vessel should be collected. They should be baked in their incomplete stage in order to preserve them from damage. Note in such cases whether the native potter allows any interval to elapse between successive processes, and for what reason. Note whether wheelmade and handmade fabrics co-exist in the same community ; if so, who makes each of them, and what does each kind of potter think of the other's method ?

Most pots after shaping are subject to smoothing, polishing, or burnishing ; or are first covered with a *slip* of creamy fluid clay or other surface covering, poured, smeared, or painted upon them either all over, or partially. Sometimes the pots themselves are immersed in a bath of slip. The materials, tools, and effects of these subsequent processes should be noted, and also the reasons assigned for them.

The *decoration* of all kinds of pottery should be noted, and especially the methods by which it is produced. It may be applied (either before or after firing, as the case may be) :— (a) by polishing or burnishing ; (b) by smoking after firing, and burnishing ; (c) by varnishing with resin or other vegetable product whilst the vessel is still hot ; (d) by impressing with the finger, with a cord or other material, or with a prepared stamp, by incising (note whether this is done before or after firing), scoring, carving, sometimes with the addition of white or coloured substances to fill the depressions ; (e) by attaching surface ornament in clay before firing, such as knobs, bands, animal or human figures, etc. ; (f) by applying foreign materials, inlaid or incrustated ; (g) by applying white or coloured slip, or a wash of haematite or ochre, or a coating of graphite ; (h) by applying a true mineral glaze or an opaque enamel, coloured or not ; (i) by painting the vessel with panels or designs in slip, or with paints of vegetable or mineral origin. It may be noted that the spiral structure of coiled pottery is occasionally preserved as an ornamental feature.

In all cases the materials and tools should be described and collected, and the native names and significance of the designs should be ascertained. Designs are sometimes employed as trade-marks. A chemical analysis of clays, slips, glazes, and paints, if it is obtainable, will form a very important addition to the record.

Firing of the pots is preceded by drying, in the open air, in the sun, or under cover. The firing may be effected in an ordinary open fire, or in an open fire designed specially for potfiring ; or in a hole in the ground ; or in some form of *kiln* or *pot-oven*. Photographs and drawings, and, if necessary, measurements should be made of such kilns. Some potters are careful to saturate their pottery with smoke-stains, or to imitate smoke-stains in various ways ; others exclude the smoke, or avoid it by keeping a clear fire.

Record the kind of fuel used, and any method of increasing or diminishing the quantity of air that has access to the fire or the pots ; the final colour of the ware may depend in part on the extent to which the iron in the clay, or in the external

coating of slip or wash, is left in a reduced (black) or oxidized (red) condition, respectively. The several methods by which black pottery is produced are especially worthy of study.

Every shape of pot should be recorded, with its name, purpose, customary dimensions, and special mode of manufacture. Special note should be taken of all forms of pottery which imitate, or are intended to imitate, any other kind of vessel, such as a shell, a gourd, bamboo, or vessel of other materials, such as skin or wood, also conversely of any vessels in other materials which seem to imitate pottery; and all substitutes for pottery, among people who use few pots or none. Note if the supposed model exists in the locality. Special varieties of pottery, such as porous water coolers, puzzle-jugs, and purely ceremonial or ornamental pottery should be noted; and also all other objects besides actual pots, which are made of any kind of clay, such as figures of men and animals, musical instruments and toys, with their composition, mode of manufacture, and other particulars.

All occasions on which pottery is used or broken ceremonially, and the attached significance, should be recorded. Note all uses of broken pottery, as for scrapers, for games, or to make cement or pavement.

GLASS

Glass is little used among any but civilized peoples, except in the form of *beads*, which may be either manufactured locally, or trade-beads brought from afar; both kinds may be used as currency. The materials, mode of manufacture, processes of blowing, modelling, or moulding, nature and uses of the glass objects, should be noted, and specimens, tools, and photographs obtained. Are objects of other materials covered or decorated with vitreous glaze or enamels? Note any materials used after the manner of glass for making windows or other translucent objects. Are lenses employed, and for what purposes? Is the glass-making industry an ancient one in the region? Are arrow-heads or other implements made from fragments of imported glass bottles, etc.?

STONE IMPLEMENTS

The processes employed in making stone implements, by those who still use them, and the precise functions which they serve, are worth special study, since they throw much light on the manufacture and function of stone implements in earlier ages. Note in detail how the raw material is obtained and shaped, whether by hammering, pecking, flaking, chipping, grinding, cutting, drilling; is fire used at any stage? Different kinds of stone or rock differ greatly in their reaction to blows or pressure, and many kinds cannot be shaped by striking off thin slices or flakes. Note whether anvils, punches, or pads are used, and pay special attention to any method of flaking by pressure. Describe any method and appliances employed for grinding and polishing stone implements, and note whether these are done in whole or in part. Distinguish between intentional polishing, and that which may be produced incidentally during use in hoeing, sago-chipping, etc. Record any use made of rough chips of stone or waste flakes for implements. The manufacture of implements, such as axe-blades, of shell, should be studied in connection with stone-working.

Sketch or photograph all essential or characteristic attitudes and motions of the worker, and secure examples of all tools or accessories. This is of particular importance in the making of long thin flakes, and in the fine or ingenious flaking of masterpieces. Are natural forms used, or adapted? Are the different forms of implements well-marked? Have they names? How are accidental deviations of type regarded? Is there much wastage in the manufacture? What kinds of stone are used? How are they obtained? Are they carefully selected, and by what signs of quality? Are there special stone-workers or does each individual make his own implements?

For what purposes are stone implements now used? Are substitutes available, and, if so, what reason is given for persisting with stone? How are they used? simply held in the hand? or hafted? If hafted, how are they secured to the handle? Obtain specimens, if possible, of every kind of hafting

which is in use. How long does it take to make objects, or cut down trees, with stone implements? A simple test is to match two workmen against each other, one with a stone implement, the other with its nearest European counterpart. How long does a stone implement continue in use? Is it re-sharpened when dull; and how? Note the effects of wear, including abrasion by handles or lashings. Are there traditions of the former use of stone implements? or ceremonials involving the use of stone where other materials are used in daily life? Do the people ever find stone implements in the ground, and if so, what account do they give of them? Are they regarded as having magical or protective qualities, or made use of medicinally? Are they termed "thunderbolts" or "thunderstones" and used as a protection against being struck by lightning? Ancient stone implements should be described and drawn, or collected, and if they are found below the surface of the ground careful record should be made of the nature of the soil, of the levels, and of animal remains, or artefacts that are associated with the stone implements.

THE WORKING OF WOOD, BONE, IVORY, ETC.

* *Wood*.—In spite of the general similarity of the results, the kinds of wood and the methods of woodworking appropriate to them vary greatly, and deserve careful study. Note the different timbers which are in use, and their respective purposes. If possible, obtain a botanical description of the living tree, with photographs or drawings, and specimens of leaves, flowers and fruit. How is the tree cut down, dressed, transported, seasoned, sub-divided into logs and planks? What tools are used in woodworking? Is either *fire* or any hot object used to fashion wooden objects or to hollow them? Describe the process. Is the form of a manufactured wooden article determined, in part at any rate, by the direction of the grain, or is it entirely independent of it? Is the warping of wood practised? How is it effected?

How is woodwork joined together? by lashings? splices?

sockets and morticed joints ? wooden pegs ? metal nails ? rivets or screws ? or by adhesives, gum or glue ?

Note particularly all methods of decorating woodwork, by carving, engraving, inlaying, veneering, polishing, staining, branding, painting, varnishing. Is anything done to preserve woodwork from damp, heat, or the ravages of animals or insects ?

Stone, Bone, Ivory, etc.—Few peoples are so copiously provided with metals, or other hard substances of artificial origin, as to neglect the primitive craft of fashioning stone, bone, ivory, and shell. Even where substitutes are at hand, and are cheaper, the rarer, more durable, or more beautiful materials are preferred by those who can afford them ; rock-crystal, ivory, and mother-of-pearl are examples of this among ourselves.

The processes of manufacture are few and simple, but they vary in detail. Note how hard substances are subdivided, smoothed, made spherical or cylindrical, bored (with solid or tubular drill), hollowed, joined, engraved, polished. What tools and what accessories (such as sand, emery, leather) are employed. What materials in this class are in use ? for what purposes ? where and how are they obtained ? Is the raw material valued, or only the finished product, such as beads ? Are any stone objects made or reserved for special purposes ? If so, what reason is given for this ?

METAL-WORKING

The following points require no special scientific training in the observer. Specimens, a few ounces in weight, should be obtained of all ores and fuels, of the finished product, and (if there is more than one stage in the process of smelting or refining) of the material which results at each stage ; and also of all slags, dross, and other impurities which are removed, since these too may give useful information to an expert metallurgist.

All specimens should be carefully labelled. They will travel safely in a simple wrapping of paper or dry grass.

What metals are in use? What are their native names? Are they produced in the country or obtained from elsewhere? To what uses are the metals put? Are any metal articles—whether plain bars, or ornaments, or useful objects or imitations of these—made for the purposes of barter, or used as currency? From what ores are the metals obtained? Are the ores found on the surface, in the beds of streams, or dug out of the ground? (v. MINING, p. 259). What is the native name of each ore? Is there a general word for all ores?

If ores are *smelted*, is the ore submitted to any preparatory treatment? What kind of fuel is used? Is any material mixed with the ore and fuel for smelting? Note the shape and size of the furnace or fire-place used in smelting, and give sketches. Describe the process of smelting, noting the quantities of the materials put into the furnace and of the metals and products obtained, and the time required for the operation. What kind of bellows is used? Make sketches of the bellows and diagrams of the working of all valves. Also of all tools used in smelting. Is the product of the smelting process a metal ready for use, or is it subjected to any subsequent treatment before use? Describe all processes of purifying or refining.

Is the art of *casting* practised? Describe the furnace used for the operation? Are crucibles used; if so, describe them, and also the moulds into which the metal is poured. Are the moulds made of sand, clay, stone or metal? Are wax cores employed, to be replaced by the molten metal (*cire perdue* process). Describe in detail the method of construction of the wax model of the mould. Occasionally an easily burnt material is used for the core. Are the castings subjected to hammering or chiselling, or to both?

Forging.—Is any process of hardening practised in making cutting implements, or weapons, or sonorous instruments? In forging, is *welding* known? What kinds of forge, bellows and tools are used by smiths? Is soldering practised? Is wire of any metal in use? Is it made by the people themselves? If so, is it made by simple hammering, or by drawing the metal through apertures?

The following questions refer to particular metals.

Gold.—Do the people wash the sands of rivers or of the beach to obtain gold? Is it obtained in the form of "dust" (coarse or flaky powder), or of "nuggets" (small irregular pieces)? Are articles made by melting the gold dust? or by hammering the nuggets? Are there any beliefs as to the origin of gold dust?

Silver.—Is silver found native, in metallic form? Or is it obtained by smelting ores? Are lead ores smelted to obtain silver? If so, describe the process used for separating the silver from the lead.

Copper.—Is copper found native, or is it always obtained by smelting ores? Is the ore burnt in heaps or treated in any way before being smelted? Is native copper formed into implements by mere cold-hammering?

Iron.—Is iron found native? Some meteorites consist of iron, and such masses of iron are occasionally discovered and used. If so, what account do the people give of these iron masses? Is cast-iron made by the natives? Do they make any distinction between wrought-iron, cast-iron, and steel? Describe the process by which each is prepared.

Bronze includes all alloys of copper and tin. If it is made by melting the two metals together, what are the proportions? Are any other ores or other substances added? What is the source of the tin?

Brass includes all alloys of copper and zinc. Is it made in the country or imported? Is it made by heating metallic copper with zinc ores?

Are copper ores and lead ores smelted together, and is any use made of the alloy of copper and lead so produced?

Describe any methods practised for mending broken metal articles. Describe the processes and tools used for ornamenting metal utensils, weapons, personal ornaments, etc.

Descriptions of furnaces, tools, etc., are much more valuable when they are accompanied by sketches and dimensions.

Discover, if possible, the relative values of metals which are known to any given community, and the uses to which they are put.

MINING AND QUARRYING

In this section are intended to be included all operations by which mineral substances are won from the earth for human uses. They range from simple collection of stones and fragments of ore from the surface, or from the beds of streams, by *hand-picking, sifting, or washing*, to *quarrying* or open mining of exposed surfaces of solid rock, and *mining* proper, in which a bed or vein of the mineral is excavated underground by means of *galleries, stalls, and workings*, approached by vertical *shafts* or horizontal *drifts*. Diagrams and plans should be made, and, if possible, supplemented by examples of any diagrams which are in use among the miners themselves. Obtain samples of the minerals, and note the uses to which they (or their ultimate products) are put.

Note all implements, receptacles for the mineral, lifting tackle, provision for light, ventilation, draining (including pumping or baling); employment of women, children, or animals in or about the works. Is the mineral prepared for use at the quarry or mine? or is it sent away in the rough state? For the preparation of metals from ores *v. METAL-WORKING*, p. 256, and for the removal of minerals, *v. Transport*, p. 278.

SALT

Salt is obtained either in solid masses of *rock-salt* by quarrying or mining; or by boiling down the *brine* from salt springs; or by enclosing sea-water in natural or artificial *salt-pans*, and collecting the deposit of salt which remains, after evaporation; or from the ashes of certain plants. Full details of each process should be recorded, with notes of all raw materials (including the names of plants if these are used), appliances, ceremonies, restrictions, and other customs connected with it. Is vegetable salt preferred to mineral salt? How is salt owned, stored, sold and distributed? Is it made up into cakes or blocks of standard size or weight? For salt as a medium of exchange *v. TRADE, EXCHANGE AND CURRENCY*, p. 138.

Are any other soluble minerals obtained in the same ways as salt? Examples are soda, potash, nitre, saltpetre, alum, borax. For what purposes are they used? Are they exported? Describe the source of supply, the mode of extraction, and purification, with all implements and apparatus. Obtain samples of the crude and finished product.

TOOLS AND MECHANISMS

The simpler tools of backward peoples may consist of natural objects or materials used with little or no preparation, as in the case of shells and boars' tusks for cutting and scraping; or attachment to a haft or holder may be usual, as when a knife is made by attaching a row of sharks' teeth to a strip of wood. The casual use of natural objects should be distinguished from the regular use, and in all cases the origin, constituents, construction, and methods of use of the tools should be recorded. Methods of hafting should receive special attention, since these cannot always be precisely ascertained by inspection of the tools themselves. Except for general-utility tools which may serve indifferently for hacking, cutting, and scraping, the English names of tools may generally be used for classification, but it may be necessary to employ such terms as scraping-tool, graving-tool, planing-tool, adzing-tool, where the form and construction do not justify the use of the unqualified term. Care should be taken to distinguish between the axe and the adze, since they differ both in construction and in function (v. WEAPONS, p. 233). In all cases an attempt should be made to ascertain if, and how far, the materials or the construction of a tool have been modified by foreign influences. The chief types of simple tools that may be looked for are: *For striking, and driving*, hammer-stones, mallets, sledges, hammers; *for hacking, cutting, and dividing*, stone choppers, knives, saws, axes, adzes, wedges; *for surface-working*, gravers, chisels, scrapers, planes, adzes, rasps, files; *for boring*, awls and drills (v. STONE IMPLEMENTS, p. 254); *for holding*, tongs.

Mechanisms.—These may be broadly defined as tools in

which, during use, one part moves on another, and rotary motion is frequently an essential factor. Thus, boring or perforating may be done by means of a simple drill twirled between the hands, or the rotation may be effected by means of a bow (bow-drill), or a thong (thong-drill), or a cord attached to the top of the drill and to the two ends of a crossbar (pump-drill). Rotary motion is also involved in such mechanisms as pivots or hinges, pulleys, windlasses, potters' wheels, rotary querns and grindstones, and lathes, though none of these appliances is of common occurrence amongst the more backward peoples. The principle of the lever is involved in forceps, tongs, pliers, and scissors, but it may also be used in other ways, as in the lifting of heavy weights. The use of rollers, wheels, presses, and tackle of any kind should be recorded, and any devices in which the elasticity of wood, the weight of the atmosphere (as in pumps and bellows), are made use of; and also all other appliances in which the force exercised undergoes a change of direction or amount by the utilization of mechanical principles or natural laws. In all cases full details of materials, construction, and working, should be recorded, as well as instances of the employment of wind, water, and animal power. It will be noted that many of the mechanisms referred to above, and also many tools of simpler make, are associated, wholly or in the main, with activities treated elsewhere in this volume, but they do not thereby lose their interest as tools and mechanisms.

SKIN-DRESSING

The preparation of the skins of animals, so as to render them fit for clothing, and for other purposes, is an important industry.

Preparation of Skins and Leather.—*Skins* with the hair on are frequently merely dried, the inner part being dressed with some antiseptic preparation, and sometimes curried or shaved. *Hide* is a convenient term for those raw or dried skins which are used for their toughness or pliability. *Leather*, properly so called, is either *tanned* with bark, like shoe-leather; or

tawed with alum, etc., like kid-leather for gloves ; or *dressed* with oil, like chamois or wash-leather. For each kind the skins pass through several processes, one of the principal of these being usually the steeping of the hides in lime-water, so as to loosen the hair and prepare the substance of the skin for the final dressings.

Record the names and sex of all animals the skins of which are prepared for use ; is any fish-skin used ? How are the skins removed from the animals, and what instruments are employed for the purpose ? What skins have the hair left on them ? and how are they prepared or dressed : is the hairy side dressed or treated in any particular manner ? If the hair is removed, how is this effected ? and how are the hides tanned or prepared ? What are the substances used for dressing them ? and how are they administered ? Obtain samples for analysis, if possible. Are the skins pegged out or otherwise fixed and tautened during the process ? Are the inner sides of the skins scraped or curried ? and, if so, with what kinds of instruments ? Is any beating process or manipulation employed so as to render the leather supple ? Is the leather dyed, or its surface in any way ornamented by peeling, incising, dyeing or varnishing ? In *Morocco-leather*, the grain is produced by crumpling.

Uses of Skins and Leather.—The uses to which skins and leather may be applied should be enumerated. Are any skins, or bladder-like internal organs, used for holding liquids, like wine-skins ? if so, what are they ? and how prepared ? Are raw hides used, either whole, or in pieces, or strips ? and how applied ? (v. STRING, p. 263). For what purposes are the different kinds of leather chiefly used ? And are they dressed in any way for the sake of preserving them while in use ? Are any portions of the human skin, such as scalps, prepared in any way by drying or otherwise ? if so, how, and under what circumstances ?

BARK CLOTH, Etc.

Felt, Bark-Cloth, Bast, and other materials used instead of textiles should be noted and collected; together with the instruments used in preparing and decorating them, and full notes of the processes employed. Add specimens intercepted at each stage, from the raw bark and the foliage of the tree, for example, to the finished garment.

STRINGS, NETS, KNOTS, NEEDLEWORK, Etc.

Strings are made of strips of materials, animal (skin, hair, wool, tendons, or insect product), or vegetable (stems, leaves, roots, bark, fibres), which are prepared in various ways (split, shredded, soaked, chewed, dried, spun, twisted, or plaited). Unworked strands and thongs are mere strips of the material, and, if a longer piece is required, these strips are knotted, spliced, or otherwise fastened end to end. Worked strings are made of more than one strip of the material, *twisted*, *plaited*, or *braided* together to form a cord or plait of two or more "ply." The twist may be simply made between the fingers, or by rolling on the thigh, with or without a spindle, spinning-wheel, or other mechanical aid. *Sennit*, or *sinnet*, is a sort of braided cordage, formed by rope-yarns or spun yarn, of which three to nine or more threads are plaited in various forms; common sennit is flat, but there are round and square forms. In Oceania the term sennit is applied to a braid of coconut fibre, which is used for innumerable purposes (twisted coconut fibre is string and not sennit). *Cord* and *rope* are convenient words for thick strings, and *thread* for slender ones. *Twine* should be used only for two-ply twisted threads. Ascertain the definite purposes for which the various kinds of string are employed. Inquire what substances are employed for the manufacture of the various kinds of string, and if they are subject to any preparation before or after manufacture. Are any animals or insects kept for the purpose of supplying materials to be spun? Are any plants cultivated for the sake of their fibre? If dyes are employed, how are they obtained

and applied? Describe all methods of joining ends. Describe the methods of making worked strings. Is string made by women or men, or by both?

Knots.—Collect examples of all the different kinds of knots, with the native names for each, and the purpose for which it is used.

Sewing and Embroidery.—How are articles sewn? Are needles, awls, or tweezers employed to pass the thread through the material? Note the direction in which they are used, to or from the body. Obtain as many varieties as possible of every kind of stitch, with their names. Embroidery is the decoration of surfaces with needlework. Note on what materials it is executed, with what kinds of fibre or thread, with silk, gut, porcupine-quills. *Appliqué* is one material, plain or ornamented, sewn on to another.

Netting, Knitting, and Lace.—Describe the process of netting, whether by the fingers or with a netting-needle, and make drawings of the meshes if specimens cannot be obtained. How is uniformity of the mesh obtained? Knitting includes all varieties of network in which the meshes are drawn so tight that a coherent fabric results. It is made either with movable needles (*knitting proper*), or hooks (*crochet*), or fixed pins which are afterwards withdrawn. When network is coloured, note how the colouring is done, and how patterns in different colours are effected.

Other uses of string.—Are strings used in any way as measures of length? Are knotted strings used as aids to the memory? Are any special kinds of string, or strings, made of special materials, used magically or ceremonially? (*v.* STRING FIGURES, p. 323.)

SPINNING

Although spinning may play a part in string-making, it has greater importance in the preparation of yarn for weaving. The *spindle* is an ancient appliance which has survived until modern times even in civilized countries, and there is no great variation in its form and construction. It may consist of a

single piece of wood, thickened for part of its length ("spindle-shaped"), and it usually has a nick or notch or hook at one end. More usual is the type in which a cylindrical shaft is fitted with a perforated fly-wheel, or *spindle-whorl*, of wood, bone, stone, pottery, etc., which may bear some form of decoration. Spinning is usually, but by no means invariably, done by women, and the work may be carried on whilst the operator is standing, walking, or sitting. As already mentioned under String, p. 263, the spindle may be rotated by rolling it along the thigh, but it may also be held suspended, either free in the air, or with its lower end resting on the ground, or in a shallow bowl or cup. Occasionally (as amongst some South American tribes) a support is provided for the spindle, of such a nature that it may be said to revolve in bearings. The fibre that is being spun is often supported on the end of a stick or staff, which is called a *distaff*, but it cannot be too carefully remembered that this plays no part in the actual twisting of the fibre. The observer should record all details of the material, form, and construction of the spindle and its whorl (if present), the sex of the spinner and the conditions under which the work is done, the exact method of operation, the material (wool, cotton, etc.) that is spun, and how it is prepared, the way in which the spun yarn is wound on and off the spindle, and the uses to which it is put.

Spinning-wheels have a much more restricted distribution than the spindle, since they occur only in the Old World. In all but the European "Saxon wheel" (which is continuous in its action, spinning and winding the yarn at the same time), the spinning-wheel is so constructed that a short period of twisting the fibre is followed by one in which the length of spun yarn is wound on the spindle. In this intermittent action it agrees with the spindle, and indeed the Asiatic and the older European spinning-wheels are essentially spindles fitted horizontally into bearings, and rotated by means of a cord passing round both wheel and spindle. The wheel in the simpler forms is revolved by the hand alone, but in some types a treadle is fitted. The mechanism of the Saxon wheel, in which the place of the spindle has been taken by a structure

which bears no resemblance to a spindle, cannot be described here.

In the description of the spinning-wheel, it is necessary to note the construction of the wheel itself, the form of the spindle, the nature of the spindle-holder and its bearings, the manner in which the cord connects the wheel with the spindle, the construction of the support or frame of the whole structure, and the method of working.

The observer will of course record any special relationships or observances of a social or religious character that are associated with the use of the spindle or the spinning-wheel.

WEAVING

In Weaving, two series of pliable elements are interlaced at right angles to form a fabric more or less dense according to the materials and method. The elements are usually of spun thread or *yarn*, sometimes of thin strips of unspun fibre, strips of leather may also be used. The process is capable of such elaboration and complication, and the mechanical appliances by which it can be furthered are so numerous that a short introduction, and the explanation of a few technical terms, are necessary that the chief points may be expressed with brevity and lucidity.

(i) *Looms and their parts*.—True cloth is usually made of material which is so much softer and more pliant than those used for mats, that one series of elements has to be kept extended by artificial means, while the other series is interwoven with it. The series thus extended, which remains relatively passive during the operation, is called the *warp*; the active series, which is intertwined or *woven* into it, is called the *weft* or *woof*.

The *warp* may be attached at one end to the person of the operator, and at the other to some firm object, such as a tree or post; or it may be extended on a frame or *loom*.

The *weft*, which may consist either of a number of separate elements (as in matting), or of a single continuous element, is then guided between the threads of the warp either simply

by the fingers, or by a *shuttle*, to which it is attached or on which it is wound, and each successive weft-element is called a *pick*.

If the fabric is to be of any length, a *frame* of some kind is almost indispensable. The simplest frame consists of a single *beam*, supported horizontally by its ends, at a convenient height. From this beam the threads of the warp hang down. For short pieces of cloth, the warp may be set up with a single thread, passed in long loops over and over the beam; whence these hanging loops are kept stretched by a second beam which passes through them all and is either supported by them or held apart from the first beam by side-pieces. Sometimes a special frame of parallel bars is used for setting up the warp, which is afterwards transferred from them to the actual loom.

For *continuous weaving* of longer pieces of cloth, each thread of the warp is fastened separately to the beam. The free end of each thread is coiled on a reel or *bobbin*, the weight of which, sometimes aided by a separate *loom-weight*, keeps the thread extended and vertical, with the bobbins or weights hanging clear of the floor. To prevent the warp threads from becoming entangled, one or more *lease-rods* or *laze-rods* is interlaced over and under alternate threads, near the beam. These are especially necessary when the loom is a portable one, and when, as sometimes happens, the work has to be rolled up and put away several times before it is finished. In vertical looms of this type, weaving begins at the top and proceeds downwards till it approaches the bobbins. Then the completed part is rolled up on the beam, which can revolve on its supports like a roller, and may now be described as the *cloth-beam*, and a fresh length of warp is released from the bobbins, till they hang once more just clear of the floor.

In more elaborate looms, the bobbins are replaced by a second roller, called the *yarn-beam*, on which all the warp-threads are wound and unwound as required. In looms with two beams or rollers, weaving often proceeds from the bottom upwards. But the loom need not be vertical, and when the warp is once set in a horizontal plane, space is saved by bringing the rollers nearer together and exposing a shorter

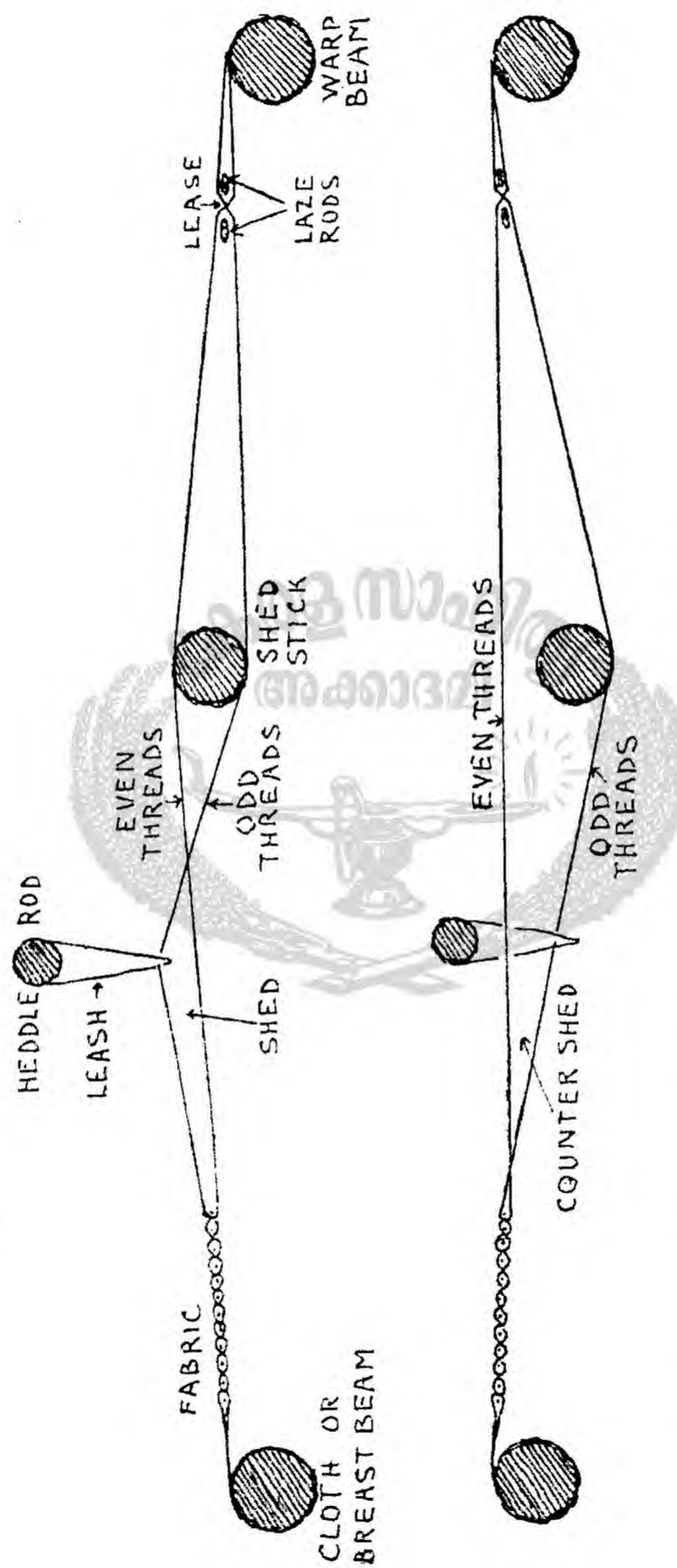


DIAGRAM TO ILLUSTRATE THE PRINCIPLES OF WEAVING

length of warp. The operator now works forwards from the cloth-beam, and rolls up the finished cloth upon it at frequent intervals.

In the absence of any special contrivance, each alternate warp-strand must be raised (or brought forward, if the warp is vertical) with the fingers or by aid of a needle or a shuttle, for the passage of the weft; but the process is greatly facilitated by appliances which raise or depress a number of warp-threads at the same time, so that the shuttle may be *shot*, or passed rapidly with a single motion, between these threads and the rest. The instrument which serves to raise or *float* a set of warp-threads is called a *heddle* or *heald*; the opening so produced is called the *shed*; the operation of producing the shed is *shedding* the warp; the process of passing the shuttle through the shed is *shooting* the weft. Heddles may be of two kinds; the simpler form, called a *bar-heddle*, or *rod-heald*, consists of a number of loops usually fastened to a rod, each loop encircling one warp-thread, so that when the rod is raised these warp-threads rise with it and a *shed* is formed.

The other pattern, called a *frame-heddle*, may either consist of two rigid bars connected by a series of loops, each of which has midway between the bars, an *eye* for the passage of a warp-thread; the flexible loops may be replaced by narrow bars each pierced at the centre with a hole which forms the eye. The warp-threads which the heddle is to raise and lower pass through the eyes; those which are to remain stationary pass through the spaces between the loops or bars. The mechanism for raising and lowering the heddles to produce *shed* and *counter-shed* for the passage of the weft, is discussed below.

When one heddle (bar-heddle) only is used, as in a great number of primitive looms, there is invariably a special lease-rod or *shed-stick* of considerable diameter immediately behind the heddle, below the free threads and above those which pass through the eyes of the heddle. This, when the loom is at rest, sheds the warp to produce a *counter-shed*; thus the heddle, when raised, changes the relative position of the two sets of threads and so sheds in the other direction.

When the heddle is released, the tension produced by the *shed-stick* reasserts itself, and the warp is again in the original disposition. Each time the heddle is raised or released, one or more picks of the weft through the warp are shot. The term "tension-loom" is suggested for this primitive pattern.

To put less strain on the warp, two or more heddles (frame-heddles) are used instead of the single heddle and shed-stick, each raising a different set of warp-threads. For the same reason, mechanism is added whereby when one heddle is raised the other or others are depressed, giving a wider shed with less strain upon the warp. Such looms are said to have *reciprocating heddles*.

In weaving, each *pick* of the weft, after being shot through the *shed*, is "beaten up" by the shuttle itself if it is long enough, or more commonly by a flat sharp-edged bar, called a *sword*, or by a pronged instrument called a *comb*, or by an appliance called a *reed*, shaped like a solid frame-heddle without eyes, between the bars of which the warp passes. Sometimes this is fixed in a swinging *batten* to give weight to its blows. The *reed* further serves in place of *lease-rods* (described above) to keep the warp-threads apart. In some cases, this is its sole function, and it is not used to beat up the weft at all. The whole apparatus of which these appliances form part is called the *loom*. In working a loom furnished with a heddle or heddles there are three distinct motions. First the shed is formed by raising the heddle; second, the weft is shot through the shed by means of the shuttle; third, the weft is beaten up with the sword, comb, or reed.

(ii) *Points to be observed*.—The following points should be noted with regard to the appliances used in weaving and their action. Diagrams should be given where possible throughout the whole of this section, and the observer should for himself practice each mode of weaving if possible.

Warp.—Describe the nature, preparation, and mounting of the warp; is it in simple strands or spun? How is it mounted? is it of limited length, as in matting and carpet-weaving, or is a reserve of thread rolled on a yarn beam, or coiled on bobbins? Is it arranged horizontally or perpendicularly? Is it attached

to the person of the weaver, or extended on a frame, or by means of weights? Is the frame portable or fixed? Describe the materials and construction of all frames and their parts. Give material, shape, number, and position of lease-rods if present.

Weft.—Describe its nature and preparation; is it a simple strand or strands, or spun? Is each pick formed of a separate strand or is the weft one continuous thread?

Shuttle.—Describe the material, shape, and method of making the shuttle, with especial reference to the attachment of the weft. Obtain examples of shuttles charged with thread. Describe how it is manipulated. Is it shot with the hand or with any mechanism? Is the shuttle used to beat up the weft?

Heddles.—How is the shed formed? by means of one or more heddles? State their material, number, construction, noting whether bar- or frame-heddles, and whether rigid or not. How are they connected with the warp; how raised or depressed (by hand, treadles, or other mechanism); have they a reciprocating action? Give diagrams of all parts and mechanism.

Sword, Comb, and Reed.—Describe their material, shape, method of manufacture and use. How is the warp passed through the reed? Is the reed suspended in any way; if so, how? Is the reed used to beat up the warp?

TEXTILE PATTERNS

Tied Cloth, or Twined Weaving.—In some primitive weaving, where the warp is stretched on a frame and the weft is threaded in and out by hand, two or more weft-elements pass together across the warp, twining round each other and at the same time enclosing one or more warp-elements between them; these weft-elements are usually spaced apart from one another. The commonest form of textile weaving is: *Plain* or *Chequer*.—In this the first weft-element passes alternately over and under each warp-element; the second passing over those warp-elements under which the first passed, and under those over which the first passed, and so on. This pattern of

textile can be woven either by the single-heddle tension-loom, or better by a loom with two heddles. Varieties of this pattern may be produced by making the weft pass alternately over and under an equal number of warp-threads. *Twill* is a more elaborate pattern and requires a greater number of heddles. There are two varieties, the *Diagonal twill* and *Sateen twill*. Each of these is divided into a number of sub-varieties according to the number of heddles used.

In all cases the native names of the pattern should be ascertained, and it should be discovered whether they have any traditional meaning, whether patterns have any individual history and are considered to be private, family, clan or tribal property, whether patterns may be borrowed, inherited or sold.

Textile Design.

With a large number of heddles innumerable patterns can be woven on a ground of plain weaving or twill by floating definite warp- or weft-elements out of their turn; such patterns, when warp and weft are both of the same colour, are known as *diaper*. When colour is introduced, as in *brocade*, the question becomes more complicated. It need only be mentioned here that there are two principal methods of producing colour patterns:—(a) By dyeing the warp piecemeal so as to reserve a design upon it (*v. DYEING*, p. 274), and then weaving a plain chequer cloth with weft of any one colour; (b) by introducing threads of various colours in warp or weft, or both, and employing heddles so as to show the required colour on the surface of the cloth where the pattern requires it: sometimes this is done, not with the shuttle, but with a needle held in the hand.

Pile-Weaving.—A more elaborate form of ornament is produced by introducing into the texture of the fabric particular weft-threads which form upstanding loops; these loops when cut, form a *pile*. The fabrics so produced include *pile-carpets*, *plush*, and *velvet*. If the pile is not uniform, but in pattern, it is a *velvet brocade*. Describe the method of inserting and cutting the pile, and any mechanism employed for either purpose. Sometimes the pile is inserted in the finished textile

by hand with a needle, but this process approximates to embroidery.

Embroidery is the working of patterns with sewn thread on the finished textile. Describe the method of sewing, the thread, needle, and other instruments; the various stitches and accessory ornaments, if any (beads and sequins, plaques, and patches), and obtain examples, if possible, both of them and of the finished work (*v. String and Needlework*, pp. 263, 264).

Collection of Textiles.

Textiles are neither difficult to collect nor costly, especially as it is only necessary to preserve a fragment sufficiently large to show the commencement of the "repeat" of the design. A collection of samples which can be submitted to experts gives far less trouble to the traveller, unless he wishes to study the subject thoroughly (in which case he will find it necessary to have recourse to the regular literature dealing with the subject), than a tedious and minute description of the design. Each sample should, if possible, be accompanied by particulars explaining which is the warp and which is the weft; which is the face or front of the cloth and which the reverse. In the case of diaper patterns, are they caused by floating the warp, or the weft?

With regard to design: carefully collect the names of all designs, with translations and any particulars which can be discovered relative to their meanings. Are any particular patterns called by different names by the two sexes? Ascertain the names of particular patterns from several individuals, to see if they differ.

Is the design worked from a pattern or from memory alone? Is it suggested to the mind of the weaver by any song sung during the operation? Are particular patterns woven or worn by either sex alone? Have any patterns magical or protective qualities? Are flaws in the pattern purposely introduced? Are particular patterns reserved for any particular rank, caste, or occupation? Are any makers' marks inserted into the design?

If it is desired to record a certain design, and it is found impossible to collect a sample or to describe it easily in words,

the simplest method is to describe it constructively so that a European weaver can repeat it ; as follows :—

Take sufficient of the warp-threads to show one repeat of the pattern, and number them from left to right ; name the heddles from front to back, A, B, C, etc. ; state which warp-threads are raised by each heddle ; and, finally, state the order in which the heddles are raised for one repeat of the pattern.

Observances connected with Weaving.—Is weaving the task of the men or of the women, or both ? If of one sex only, may the other sex approach or touch any of the apparatus ? Is the craft inherited ? How is it learnt ?

Is weaving regarded as a sacred operation ? Must the weaver observe any particular prohibitions before or during his or her task ? Are there any charms or incantations which must be uttered or sung in order that the work may be successfully performed ?

DYEING AND PAINTING

The use of colour for ornamental purposes is almost universal throughout the world, but the number of colours, their nature, and the purposes for which they are applied vary greatly. There are, broadly speaking, two distinct methods by which colour is applied :—(a) *dyeing* proper, when the colouring-matter is used in a state of solution, and penetrates the pores of the object to be dyed ; and (b) *painting*, when the pigment is mixed with some fluid medium or vehicle, and is applied wet by a brush or some equivalent.

Dyeing is usually practised in connection with animal and vegetable fibre and tissue, such as leather, thread, and cloth ; but the same process applied to wood and bone is commonly called *staining*. Painting is more commonly applied to wood and other hard surfaces. Both processes are employed to render the human form either more terrible or more beautiful. Is any method of “stopping out” or “reserving” a design, in the natural colour of the material, employed in dyeing, either by means of a temporary coating of wax (as in *batik*

and so-called "lost-colour" pottery) which is subsequently removed by heat; or by covering parts of the warp or weft strands, or of the cloth-ties with protective binding before applying the dye (*tie-dyeing*)?

What kinds of wax or other materials are used, and how are they applied? Procure specimens both of the "reserving" materials, and of any instruments used in applying them; also samples of cloth or other substances so treated at various stages of the process.

Are any portions of the human body dyed, such as the teeth, nails, hair, or skin? With what dyes? for what purpose? *v.* PERSONAL APPEARANCE p. 190.

Dyes.—Note how dyes are prepared, and from what substances, and how they are applied. If possible, procure specimens of the raw materials, and of the plants or other substances which yield them, as well as objects dyed with them. What are the favourite colours? For their arrangement and proportions *v.* DECORATIVE ART, p. 288. What are the articles usually dyed—skins with the hair on, leather, twine, cloth, etc.? Is any mordant or solution used, either to prepare the object for receiving the dye, or for rendering it permanent after it has been applied?

Painting.—What are the principal pigments, and how are they prepared? How are they ground or precipitated? What medium, if any, is employed to fix them? Is any subsequent process of varnishing or lacquering employed, and, if so, how is the varnish made? What kinds of brushes are used? What are the objects usually painted? What colours are most in vogue, and are they transparent, like *dyes* and *stains*, or opaque, like *body-colours*? Is *gilding* practised? or any allied process? In painting patterns, in what order are the colours applied? Is the outline first painted and the colours subsequently filled in, or is each mass of colour roughly sketched, and its precise outline developed last? Is a given colour always applied in patches of uniform density throughout, or is the practice of "shading off" observed? Among "primitive" peoples note if natural pigments are ever *mixed* to produce tints not otherwise obtainable. Are any mechanical means, such

as compasses or stencilling-plates used, or any process of stamping or printing? If so, describe the processes and appliances in detail. Is paint employed on the human body or hair, and, if so, on what occasions, and in what manner is it applied? *v.* PERSONAL APPEARANCE, p. 190. Note all beliefs and observances about colour, or its use, or about particular colours. Is any colour regarded as especially sacred, and reserved for sacred purposes? If so, what reason is given?

TRAVEL AND TRANSPORT—BY LAND

Path-finding.—Some people are credited with an almost instinctive power of finding their way; statements of this kind should be noted, and also carefully tested by experiment. Note all natural objects which serve as *landmarks* and their names. Are marks made upon natural objects for guidance? Are they private or public marks? Is there any customary code of such signs? (*v.* WRITING, p. 333). Are there regular sign-posts, or marks of distance, like mile-posts? How are *distances* estimated?

Paths and Roads.—Are there customary paths from place to place? If so, how are they established, maintained, repaired? Is there any right of way? If so, is it the right of all, or of limited classes of persons? May a customary path be closed? If so, by whom, or under what authority, and for what purpose? What signs are used to indicate the closure? Is the path single, or are there several paths running in and out of each other? Are artificial roads made? With what materials, by whom, under what authority? Are there "corduroy" roads of transverse logs? Are there walls along the roads? If so, how are they made and maintained? Are there any regulations for their use? Is any rite practised when going along a road for the first time? Are paths or roads under the special care of a particular spirit or god? If so, investigate this carefully.

Halting Places.—Are there regular halting places between villages or settlements? How are they selected and maintained?

Are they under the protection of some spirit or deity? Is there any indication of distance from one place to another? How are travellers accommodated in villages and towns? Are there inns or public houses? If so, to whom do they belong, and how are they maintained? Who may use them? Do they provide food as well as shelter? (*v. RULES OF HOSPITALITY*, p. 82.)

Mode of Travel.—In what order do people travel—in single file, two or more abreast, or irregularly? Is there a relative position of the sexes or of rank? Do people travel alone? If not, do they arrange regular companies for travel? Are there periodical *caravans* for long journeys? If so, describe fully their size, organization, leadership, daily routine, and provision for defence. (For tents and other portable shelters *v. HABITATIONS*, p. 206.) What ceremonies or salutes are made, on a journey, by passengers on entering villages or houses? Is any permission to enter required by travellers? Are any passes or complimentary introductions given from one community to another? If so, are they private or public introductions? Who may give them? What religious observances are made during travel, on passing sacred or notable spots, or on entering a new territory?

Swamps, Fords, and Ferries.—How are *swamps* passed? Is anything sunk to solidify and preserve the roadway? Are *fords* marked, or any measures taken to preserve and improve them? Do the natives understand the natural line of fords from salient to salient banks? How are *ferries* worked? Are any rafts or boats kept for the purpose? If so, how are they maintained? What payment is made? Is there any understanding respecting them between neighbouring tribes? What happens if the raft is on the wrong side of the river?

Bridges.—The following are the principal types of construction: (*a*) single trees; or trees from opposite sides crossed and fastened in the middle; (*b*) bridges of piles and beams; (*c*) trestle bridges; (*d*) lattice bridges; (*e*) swing bridges; (*f*) rope bridges; (*g*) suspension bridges; (*h*) bridges of upright jambs and lintels of large stones; (*i*) sloping jambs resting against each at top; (*j*) cantilever bridges or “false arches” of

horizontal slabs overlapping and converging, with a large slab at the apex; (*k*) bridges of "true arches," constructed of radiating stones or bricks (with a *keystone* at the top; note the mode of construction, and the kind of scaffold or *centering*, on which the arch is built up); (*l*) boat bridges; (*m*) raft bridges; (*n*) flying boat bridges; (*o*) cradles travelling along wires or ropes.

Transport.—How are goods transported and by whom? Note the actual weights which are transported, the size, shape, packing, and handling of the bales. Describe the contrivances employed to assist the carrying of loads; head-pads, head-straps, shoulder-bands, sticks and the like, and whether they permanently affect the head or body in any manner. Are there regular porters or carriers? What beasts of burden are used? Note the greatest work which can be performed habitually on a journey, either by man or beast. On what food is this work done? Describe all pack-saddles for animals, cradles or knapsacks worn by porters, and other methods of carrying burdens. Are heavy burdens carried on poles between two or more men, or between animals? Are there litters or palanquins for passengers? If so, are they used by any one who can afford their use, or for people of special rank? What is the rank and sex of the occupant? Are litters used by persons entitled to use them always, or only on special occasions? What are these occasions; seasonal migrations, for war, or for religious purposes? Describe all decoration of litters, ceremonial or otherwise. How are very large weights carried? on crossed beams or in cradles, supported by many men? by traction on sledges, or over rollers? If so, give details of construction, organization of the team, distance traversed between halts, devices (such as song, music, shouts) for keeping step or securing simultaneous effort (*v. Songs*, p. 330). Are levers employed? How are obstacles or steep places traversed? What are the largest weights or masses so dealt with? Observations of these modes of transport to-day may help to explain how the stones of ancient monuments were moved and erected.

Trailers and Sledges.—Are poles fastened to beasts of burden

so as to trail behind for the transport of goods, or is any form of *travois* constructed? Are sledges used? If so, describe the construction of base-board runners (if any), superstructure, and harness. Are there any devices to reduce friction with the ground? Are sledges or toboggans used by themselves on steep slopes? Are snow-shoes, skis, or skates used either for travel or for amusement? Are there regular slides or tracks for such travel? Are timber-slides used to bring tree-trunks down from high forests? How are they constructed, maintained, and lubricated? How are tree-trunks hauled on level ground?

Wheeled vehicles.—Describe in detail the construction of the vehicle and of the wheel, which may be either solid, or a composite disc built of planks, or a built-up *rim* supported by a rectangular *frame*, or a true wheel with radial *spokes* issuing from a central *nave* (state the number of the spokes). Is there a distinct *tire* to hold the rim together and to resist wear and tear? Are the wheels fixed to their axle (as in the wheelbarrow) or do they revolve freely on an axle fixed to the vehicle? If so, how is the wheel secured? There are many varieties of lynch-pin and axle-box. Are the wheels inside of the shafts or outside? If four-wheeled vehicles are used, how are the fore-wheels and hind-wheels connected? Can the distance between them be adjusted so as to lengthen the vehicle? Describe particularly the construction of the fore-carriage, the provision for turning to right or left, and the shafts, pole, or other means by which the draught-animal or animals are attached. How is the vehicle checked on a down-slope? By a brake, clog, by tying the wheels, or how? Describe also all harness and obtain specimens or models (*v. DOMESTICATION OF ANIMALS*, p. 221).

TRAVEL AND TRANSPORT—BY WATER

Navigation is extremely complicated, and only a short sketch of the chief points to be observed can be indicated here. If the observer has any experience of boating or yachting he will know what to record.

A.—CRAFT.

In all cases your description should be constructive ; that is, it should follow the process of manufacture from inception to completion. Obtain native names (and whenever possible the botanical names, or, at least, the distinctive English names) of the woods employed, and of the materials used for lashings, ropes, sails, caulking, and so forth. A few diagrammatic sketches are often of more value than pages of written description, and should illustrate details of construction, outline, plan, and section ; the native name of every portion, including the ropes, should be recorded, as these are usually of great interest.

Rafts and Floats are the simplest aids to navigation. Rafts may be made of bundles of reed, etc., or a framework of stakes or bamboo—these may be lashed or pegged together. The shape of the complete raft should be indicated, and also which portion represents the prow. Usually the length of the stakes or boards varies, the longest being in the centre ; a well-made raft of this kind is termed a *catamaran*. Are the sides raised in any way, or is there a raised platform or seat in middle ? Is a sail employed ? The reed-raft with raised sides developed into a canoe-shaped vessel in ancient Egypt.

Among the simplest floats are logs and short lengths of wood, inflated skins and bladders, skins stuffed with a buoyant material, and sealed gourds and pots. Are any such used singly or in combination ? In the latter case, note how they are fastened together, and the construction of the framework or raft. What swimming-sacks, or similar contrivances, are employed to assist a man in crossing water ? Is the surf-board known ?

Bark-Canoes.—Note how the bark is obtained, how prepared, and the number of pieces used in the construction of one canoe ; do they run transversely or longitudinally ? how are they fastened together ? if by sewing, describe the process, the material used, and how the seams are made water-tight. How is the canoe shaped ? Is there a frame ? If so, is it set up before the bark strips or afterwards ? How are the sides

kept from tumbling in ? How are the ends made ? Is there a gunwale formed of thin spars ? Give the shape, section, and dimensions, and indicate which end is the prow.

Skin-Boats.—If the boat is made of *hides* or other material stretched over a framework, give details as to the material and method of construction of the latter, with diagrams, and particulars as to the preparation, attachment, and the sewing together of the hides ; how are the seams made water-tight ? Is a sail used ? There are several varieties of skin-boats, such as the *coracle* or *curragh*, *bull-boat*, *kayak*, *umiak*, etc. The *guffa* is a wicker-work coracle coated directly with bitumen.

Dug-out canoes are constructed by simply hollowing out a tree-trunk. Describe the method of felling the tree, of hollowing out (giving details relative to tools employed, and noting if fire is used to assist the process), note whether fire, water, or steam is applied to assist in giving the canoe its required shape (*v. Wood*, p. 255).

Sometimes thin spars are tied to the edge of the hull to form a gunwale. Make a sketch of the complete craft, paying especial attention to the modelling of the ends, and indicate which is the prow. State how the canoe is conveyed to the water, and whether in a finished or unfinished condition. A transverse section of the hull at mid-length should be given.

Built-Boats.—The simplest of these is a dug-out to which is added a plank or wash-strake in the centre or along the whole length (at each end there is usually a plank, or a specially made addition, which may or may not cover in the bow and stern) to keep out the water. Two or more strakes may be built up ; in the latter cases there is a tendency for the dug-out to be reduced to a keel-plate or keel, and this may be made of more than one piece. When the strakes or planks are set edge to edge the boat is said to be *carvel-built* ; if they overlap it is termed *clinker-built*. The strakes may be sewn, pegged, or morticed together and to the hull. Occasionally the sides of the boat are made of irregular boards of varying size. Note how the water is prevented from coming through the seams (caulking, etc.). Note whether the strakes are fastened

to a framework, or whether the ribs are put in after the boat is built, and how they are attached; also whether there are cross-pieces or knees to strengthen the sides and keep them from tumbling in. Is there any deck, partial or complete, if so, how is it composed and supported? Various-ly-worked timbers and boards may occur at bow and stern, which should be carefully studied. Note all methods of dovetailing, and of fastening the various elements together. It is impossible to enumerate all the details which may occur, but the observer should record everything he sees and obtain the native name for each. In every case give plan, elevation, and section, together with dimensions, and indicate which end is used as the prow.

The *double-canoe* consists of two canoes (not necessarily of equal size) attached in various ways; usually there is a connecting platform or even a solid deck, on which cabins may be erected.

Outrigger-boats may be either dug-outs or built-boats. An outrigger is a balancing apparatus that extends transversely across the hull and projects to some distance on one or both sides; the transverse poles of the outrigger are "outrigger-booms," their free extremities may be attached directly to a float or indirectly by various methods; all these methods should be very carefully noted and sketched. The outrigger may be single or double. Often there are one or more longitudinal or obliquely-running poles connecting the booms and lashed to them; the position of these spars should be noted. Rarely, a piece may be added to the end of a boom (boom-prolongation). Occasionally there is an outrigger boom which is lashed to the various longitudinal spars but is not connected with the float by means of a regular attachment, though it may be connected with it by a lashing—this is a "false boom." Crutches may be attached to the booms to support gear. An *outlayer* is a pole, plank, or simple framework forming a balancing apparatus, and may be single in the case of single outrigger-canoes, or double in boats which have no outrigger; it may be either temporary or permanent. When a platform of boards or closely-laid bamboos or poles

is formed, the outlayer may be termed a weather platform, which similarly may be single or double.

In all cases the carrying capacity of boats should be given, together with dimensions and native names of all parts, and of the complete structure. State for what purposes each kind of craft is intended, and whether for open sea or still waters only. An outrigger-canoe is frequently miscalled a "catamaran" by Europeans; the observer should be on his guard against this and similar errors of nomenclature.

B.—METHODS OF PROPULSION.

Boats may be poled, paddled, rowed, or sailed, or they may be pushed by swimmers. If the craft is poled, describe the *poles*, with especial reference to the point; state how they are held and manipulated; how many men engage in poling; their attitude and positions in the boat; whether the poles are changed from one side to the other; the approximate rate of speed which can be attained. Do the polers keep time; who gives the time? Do they shout or sing as they pole or paddle? How is the craft steered and by whom?

Paddles may vary from a plain piece of wood or bark, or a mere stick or shaft, to an implement composed of more than one part. Describe with reference to the following points: whether cut from the solid or composite; material or materials; how put together; outline and section of butt, shaft, and blade. Is a double paddle used? Describe how paddles are held and manipulated; are the feet or legs used in any way; are the blades of the paddle removed from the water at the end of the stroke or are they "feathered" under water; are the paddles changed from side to side? Are there different paddles for the two sexes? How many paddlers form a crew; give their attitude and positions in the boat, indicating which side they paddle; do they keep time and who gives the time?

How is the craft steered and by whom? If by a paddle, state how it differs from other paddles, and whether it has any fixed attachment to the canoe; if by a *rudder*, describe with all appliances; state how attached and manipulated,

and note especially the manner in which its movements are controlled by the attachments. A true rudder, whether lateral or median in position, has two attachments, which restrict its motion to one of rotation, usually effected by means of a *tiller*.

Oars.—Speaking generally, while a paddle is manipulated simply by the aid of the hands (sometimes assisted by the foot), an oar rests against some kind of fulcrum on the boat; the questions relative to paddles will serve equally well for oars, but the following additional points require notice. Describe the nature of the fulcrum, whether a hole in the topstrake; a *thole-pin* passing through the oar; or through a loop attached to the oar; a loop through which the oar passes; a *rowlock*, which may be a notch in the topstrake, or composed of two pins, or a more elaborate construction placed on an *outrigger*. In every case describe fully with diagrams. State the number of oars used by each rower, and whether the rowers face bow or stern.

Sailing presents great difficulties to an observer who has no practical experience. The following notes may, however, be found useful.

Sails.—Give the material and shape of the sails, and describe how they are prepared; whether in one piece or sewn together; if the latter, how are they sewn? (*v. STRING*, p. 263). Give approximate sizes, and describe with diagrams any attachments for the running gear whereby they are manipulated. The following nautical terms may be used: the lower margin, the *foot*; the anterior margin, the *luff*; and the posterior margin, the *leech*; the anterior top corner, the *throat*; the posterior top corner, the *peak*; the anterior bottom corner, the *tack*; and the posterior bottom corner, the *clew*. The same terms are applied to triangular sails, with the necessary modifications.

Spars are used to support sails and keep them expanded. In all cases note the material, whether cut from the solid or composite; in the latter case, how are they put together? Give the position, length, girth at various points, and section. The main support of the sail is the *mast*. Is the mast single,

twinned (double mast), or a tripod-mast, or is there more than one mast? Describe in detail how the mast is secured to the hull, together with all fittings which may be attached to it. A spar to which the head of the sail is laced to keep it expanded is called a *yard*; how is this kept to the mast, and how is the sail laced to it? A spar to which the foot of the sail is laced is called a *boom*. A spar running from the tack to the peak of a sail to keep it expanded is called a *sprit*. A spar attached to, and projecting from, the hull at the bows is called a *bowsprit*. A similar spar projecting from the stern is called a *bumpkin*. Describe these, with attachments. A *gaff* is also a spar to which the head of a sail is laced, but differs from a yard in having jaws which keep it wholly on the after side of the mast.

Rigging is either standing rigging or running rigging. *Standing Rigging* is fixed more or less permanently, and serves only for the support of the spars. It consists mainly of various shrouds or stays; the term *shrouds*, without qualification, is usually applied to those which are attached to the mast, and fastened to the hull or deck in the immediate neighbourhood, to keep the mast from falling sideways. What are the details of the shrouds' fastenings? A stay fastened nearer the bows and keeping the mast from falling backwards is called a *forestay*; a stay fastened nearer the stern and keeping the mast from falling forwards is called a *backstay*. The material, almost invariably consisting of some variety of cordage, should be described, together with all knots and methods of attachment (v. STRING, p. 263). A separate sketch-plan of the standing-rigging is highly desirable.

Running rigging serves to adjust and manipulate the sails and movable spars. A rope which serves to hoist a sail is called a *halliard*, and is described by the name of the sail with which it is connected, or if a sail is furnished with more than one halliard, by that portion of the sail which it serves to hoist (e.g., throat-halliards). Ropes which serve to adjust the sails to the required angle with the wind are called *sheets*. They are usually attached to the clew or leech of the sail, or to the boom or yard. The word rope has been used above,

and, as a matter of fact, most running rigging consists of some variety of cordage ; but in some cases it is made of strips of hide. In every case the material should be given (*v.* STRING, p. 263). A separate sketch-plan of the running rigging is highly desirable ; also descriptions and sketches of all appliances for, and methods of, making fast the various ropes permanently, or temporarily by *pegs*, or *cleats*, or through holes in the spars or gunwale. Are *blocks* or other labour-saving appliances used ?

Manipulation.—Describe in detail the operation of setting and taking in the sail. Do they sail only with or across the wind, or can they sail to any extent against the wind ? Describe the operation of *tacking* (sailing in a zigzag course in the direction from which the wind is blowing). Pay special attention to the tacking of outrigger-boats and double-boats. How is the craft steered, by a paddle, oar, or rudder ? Describe, with all attachments, and give details as to how and by whom manipulated. Are *lee-boards* or a *centre-board* used ? These are usually fixed by a pivot to the sides or centre so that they can be dropped into the water when sailing across or into the wind, to prevent the boat making leeway or drifting sideways.

General Questions.—Inquire whether all the craft are built locally and, if not, where they are built and the details of the trade, also be on the look out for craft visiting from other places. Are different patterns of craft or appliances (such as paddles) used by the two sexes ? What form of baler is used ? How are craft moored ; is any form of anchor used ? How are the craft kept when not in use ; are there special boat-houses, if so, are they used for other purposes ? Is there provision for a fire on board ? How are provisions and gear carried and where ? Are the voyages merely coasting trips, or does the crew venture out of sight of land ? How do they lay their course ? Do they make use of currents, the sun, stars, etc., in navigation ? Do they make maps or charts of any kind ? Describe any apparatus that is used to assist in navigation or in finding the route. How are rapids or other obstacles passed ? Describe all portages and other breaks in the voyage. Does the journey continue during the night ? Are voyages limited to any

particular season? Who own the craft: individuals, a group, the tribe, or the chief? Is any part of the craft reserved for individuals of any particular rank, or of either sex? Note the positions and names of the captain, mate, and crew, and describe their several functions. Is any particular dialect used when on the water, or are there any words which are never used through fear of ill-luck or for any other reason? Describe any ornament carved, painted, or attached to the craft; what is their meaning and object? Very frequently decorations or adjuncts (such as figure-heads, flags, decorative staves, etc.) of a vessel serve for good luck or to avert danger from weather, sharks, etc. Note whether these are temporary or permanent fittings. Objects such as coconuts, limes, etc., may be carried for similar purposes. Canoes and boats are of such importance in the life of a people, and are subject to so many dangers, that one frequently finds that everything appertaining to them is liable to be attended with ritual or magical practices. These may begin even before the tree is felled, and continue through all stages of making and rigging, and not only at the first launching but whenever the craft is to undertake an important voyage. All these and similar usages should be carefully described.

ARTS AND SCIENCES

DECORATIVE ART

The surface of any object may be embellished in many various ways for aesthetic, social, magico-religious, or other reasons. *Suggestion* does not operate only at the inception of a representation or design, but it acts continuously. *Expectancy* has been an important factor in the history of art, and is intimately connected with the association of ideas ; if a particular form or marking was "natural" to a manufactured object, the same form and analogous marking would be given to a similar object made in a different manner, even though these were not conditioned by the limitations determining those of the original. Suggestion initiates and modifies, expectancy tends to conserve what already exists.

Decorative art is *naturalistic* or *concrete* in so far as its intention is to reproduce the actual or lifelike appearance of natural objects, such as scenery, artefacts, plants, animals, or people. It is *conventional* in so far as it substitutes for natural forms other shapes, colours, or groupings of these, which, though unlike the objects, are habitually recognized by a particular people as sufficient token of the artist's meaning. Our "Fleur-de-lys" and "Red Lion" are familiar examples of this. It is *abstract* or *geometric* when composed of straight or curved lines so as to form a pleasing design. Many, but not all, seemingly geometric designs can be traced back to naturalistic designs through a process of simplification or of elaboration. Many quite geometric motives are known to the craftsman by the names of natural objects, though they may not be actually derived therefrom.

Naturalistic, conventional, or geometric representations are frequently made on boards or similar objects, on flat surfaces of buildings, or on the ground ; these may be in monochrome or polychrome, and when on the ground the design may be

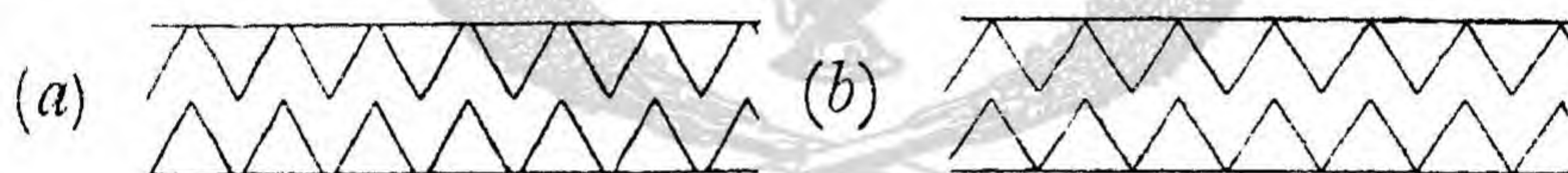
simply traced, or may be executed in coloured earth or sand. Representations of this kind almost always have a magico-religious function, and in every case the significance should be ascertained.

Decorative art gives to material objects form, colour, and other surface qualities, or accessory parts which have no necessary connection with their use but enhance or disguise, or otherwise modify, the natural qualities of their material. The word *ornament* is best reserved, as in the section on PERSONAL ORNAMENTS, p. 201, for the use of separate objects as a decoration: for instance a box may be *decorated* with geometric motives, and *ornamented* with richly-worked hinges, handles, and nail-heads.

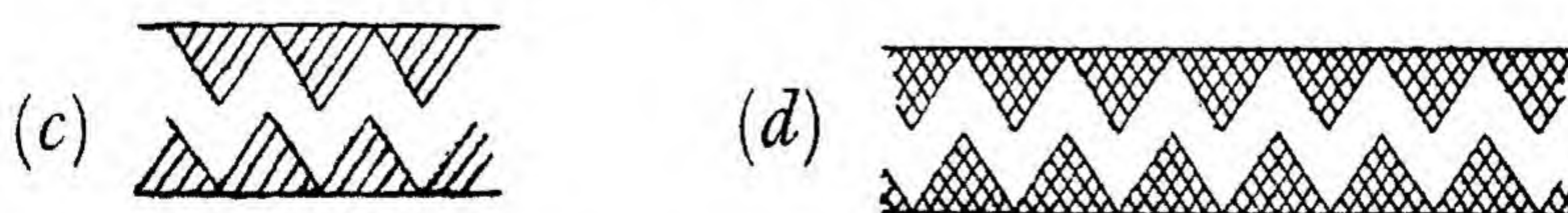
The elements of which any decorative scheme is composed are conveniently described as *decorative motives*. They may be *anthropomorphic*, *zoomorphic*, *phytomorphic*, or *physicomorphic*, according as they represent human beings, animals, plants, or an object or phenomenon in the physical world. *Skeuomorphs* are designs which are demonstrably due to the structure and material qualities of manufactured articles or fabrics, or which are reminiscent of former shape, structure, etc. All these are usually more or less conventionalized, and are often so altered, simplified, or combined into fresh designs, that it is only by tracing them through a long series of examples that their significance can be recovered. For this reason, note as accurately as possible many examples of characteristic motives, for comparison; and in the same way collect (for later study) as many specimens of decorative work as circumstances permit. When objects cannot be obtained, photographs, rubbings, squeezes, p. 387, or sketches, should be made; measurements should also be given. In studying decorated objects the position of the decorated part with regard to the whole object should be noted, and the balance between decorated and undecorated areas. Other aspects for study are: the employment of longitudinal, transverse, and oblique bands, or of panels or other areas; the symmetry of a design, not only in itself but with regard to the object decorated; the enhancement of the designs; the

background may be plain, engraved, intaglio, painted, or otherwise differentiated. Engraved lines may be simple linear incisions, zigzagged, or punctate. Carving may be in low, high or complete relief. Notice all burnt and stained designs. Study especially the method of laying out the design or pattern, and, if possible, collect objects in process of being decorated. All colours should be recorded by use of paints, or very carefully described; where the natural pigments are crude and uniform they can be described as "red," "yellow," etc., and the painted objects or the pigments themselves, which have been collected, will demonstrate to students at home what these terms exactly mean. It is sometimes convenient in taking notes to employ conventional designations, these should invariably follow heraldic procedure.

A Terminology of Decorative Art.—A description of a decoration, more particularly of geometric patterns, must essentially be a description (1) of what the artist did; (2) as far as possible, of the order in which he did it, distinguishing *motive* from *enhancement or filling*; (3) if necessary, of the *effect* produced by the completed work. Thus in fig. (a) we have a band



containing a double series of alternate triangles (*i.e.*, between parallel lines, a convergent series of recurrent alternate triangles), or it may be a band containing two continuous chevrons, fig. (b), which limit a broad central zigzag band. The triangles may be enhanced by *hachure* or *hatching* as in figs. c, g, h (in these cases the triangles

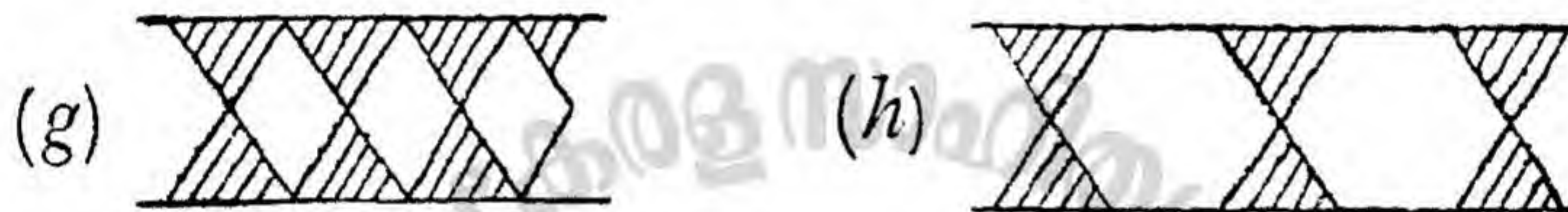


are hatched *from the left*, *i.e.*, when viewed with their base downwards and their apex upwards); by *cross-hatching* fig. (d); by *internal repetition* fig. (e); by *punctation*; or by

other methods. The zigzag band may be enhanced by internal repetition, fig. (f) or by other methods, or negatively so by the enhancement of the background, in this case the triangles, as in figs. (c), (d), (e). The description depends upon what was the primary object of the artist, *i.e.*, either triangles or a zigzag. In fig. (g) the recurrent triangles are *opposite*, and the effect is



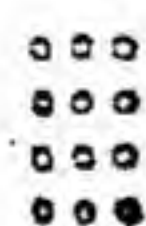
that of a string of lozenges, which may or may not have been the actual aim of the artist. In fig. (h) the triangles are not



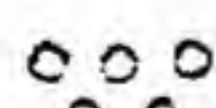
recurrent but *intermittent* or *sparse* and opposite, the effect being that of a hexagon pattern, which similarly may be incidental rather than intentional. Descriptions of decorations should conform to the usages of heraldry, systematic botany, and other sciences of classification, which fortunately agree in essentials.

The following are some of the principal common geometrical motives, with their names, and may be of service in describing the elements of patterns and designs:—

1. Circular dots or punch-marks.



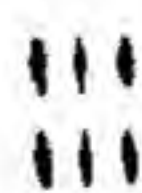
2. Contiguous and detached circles.



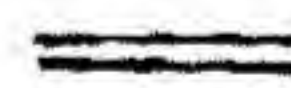
3. Concentric circles.



4. Elliptical punch-marks or dots.



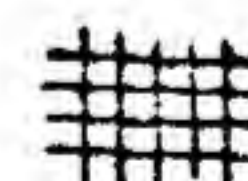
5. Bands.



6. Hatching which may be (a) vertical, (b) horizontal, (c) oblique from the left, (d) oblique from the right; these are so described as from the base line.


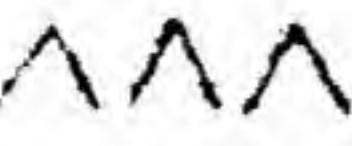
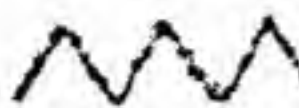
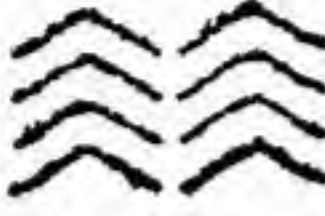







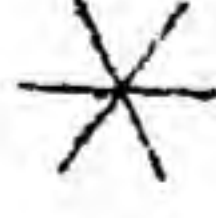
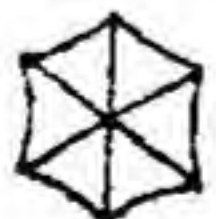


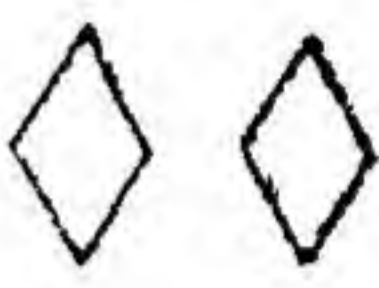






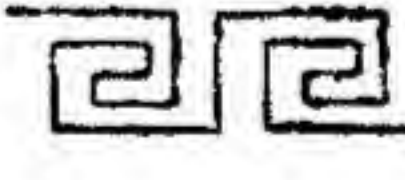
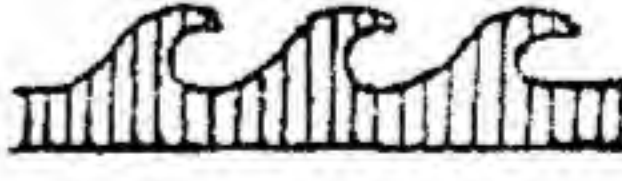



7. Rectangular cross-hatching.

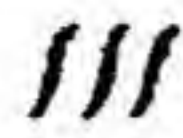


8. Oblique cross-hatching.

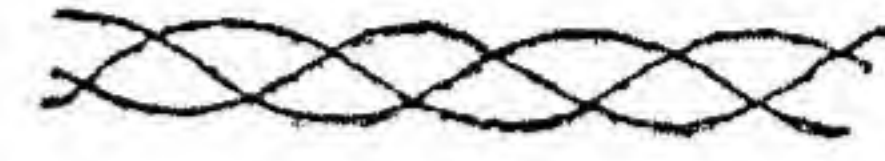


9. Chequer. 
10. Chevrons. 
11. Zigzag. 
12. Herring-bone. 
13. A cross formed by the intersection of one or two lines or bands. 
There are many varieties of crosses of which only six are mentioned here.
14. St. Andrew's cross or Saltire. 
15. Tau-cross. 
16. Swastika or Gamma-cross. 
17. Triskele. 
18. Croix patée. 
19. Maltese-cross. 
20. A star is formed by the intersection of more than two lines. 
21. A rosette may be formed by a line joining the extremities of a star. Stars and rosettes, like crosses, may be formed of other motives, for instance : 
22. is a rosette of simple coils. 
23. Triangles may be plain or filled in (enhanced) with any of the foregoing motives, or with simple dots. 
24. Lozenges include all figures bounded by four sides, except squares. 
25. The Pentagram unites five points. 
26. The double triangle unites six points. 
27. Plain coil or spiral. 
28. Reversed coil or spiral. 
29. Loop coil. 
30. Continuous loop coil. 
31. Frets may be four-square, triangular or hexagonal. 
32. A wave-pattern is often enhanced, and is a filled-in continuous loop-coil. 
33. Scrolls. 

34. Impressions produced by twisted coils or thongs.



35. A plait ornament or guilloche of two or more interlacing lines; this one is a guilloche of three.



Basket-work decorations should be described according to their (1) apparent mode of construction ; (2) the effect of the completed design.

Symbolic Art may be naturalistic, conventional, or geometric, but these forms are employed for some further meaning which a particular people habitually attach to such art forms. For example, the sun, the eyeball, and many flowers and fruits, must be represented as circular, because that is their shape. Some purely decorative designs are also circular because this form fits into a given space, or from the mere use of revolving tools. But circles may also be found used symbolically to suggest the notion of Deity, the Universe, Zero, and other abstract ideas. In the same way, all intersections of lines give rise to some kind of cross or star, but many crosses and stars are found to symbolize religious or magical ideas.

Whenever any motive or design is observed to be very common or conspicuous, it is worth while to note whether the people connect it with any beliefs, observances, or restrictions. It is probable that many peculiarities in decorative art result from the continued use of symbols, or of representations, long after their meaning and use have been forgotten. It is for this reason necessary to note all names given by the people themselves to all kinds of decorative motives. Remember that many symbolic motives do not represent the object after which they are named, but something connected with it, thus a bird's footprint stands for the bird itself, or scales for a crocodile, and so forth. Exactly the same simple design may have different meanings even among the same people ; in such cases, without direct information, it is impossible for a mere observer to be sure of the significance of any particular design. Natural forces may be symbolized by figures of animals or men. A particular arrangement of symbolic designs may be dreamt by a person and thus becomes his or

her property, and often will not be explained until the object has been bought.

Most symbols have social or magico-religious meaning and are applied to persons or objects, to classify them, to secure supernatural aid, the fulfilment of a wish, or protection from harm. It is always worth while to endeavour to ascertain the meaning even of the simplest marks or additions. But note that though all symbolic art is also either representative or decorative, it does not follow that all representative or decorative art is also symbolic.

The foregoing remarks apply solely to the actual designs, but it is quite as important to consider the object or surface as a whole and what relation the decoration bears to it. Taking any object, note whether it is decorated all over or only in certain areas, in the latter case, whether there is any functional or constructional reason that suggests that the decoration is peculiarly appropriate at such a spot. For example, in an object made all in one piece a design may occur at a spot or spots where formerly there were joins which united separate parts. Lines or simple designs may be so placed as to emphasize swellings or constrictions. Note what value is placed on undecorated areas—not only may one decorated area balance another but it may be balanced by an “area of repose.” Note all *rhythm*; when in a design it usually produces a pattern, but there may be a rhythm of designs which are not in themselves identical. In any object or surface note whether the decoration is symmetrical, actually or by balance to a median line, or whether it is frankly or intentionally asymmetrical. Note to what extent and in what order the decoration was sketched in before being actually executed, for the lay-out of a decoration may give a clue as to what was passing in the mind of the artist.

In all descriptions of methods employed in producing designs—whether realistic or conventional—it is important to state clearly whether the effect is produced by carving, engraving, painting, printing, stencilling, staining, stopping-out, etc.

MUSIC

The music of every people, whether vocal or instrumental, has its own characteristics, which depend in part upon differences in interval, modulation, and rhythm, and can only be estimated rightly on the evidence supplied by accurate records. General impressions—even those of a trained European musician—are of little value unless the sounds and phrases which they describe can be reproduced.

Music may be recorded either in writing, or by means of the phonograph. Both methods should be employed, to check and to interpret each other; but written records of music, or of the impression produced by it, are not of scientific value unless they are made at the actual performance.

MUSICAL INSTRUMENTS

In recording information regarding Musical Instruments, special care should be taken to describe them accurately, and to avoid such slipshod and usually erroneous expressions as “a kind of rude violin,” “a sort of harp,” etc., unless it is certain that the instruments referred to properly belong to the “violin,” “harp” etc., categories. It is essential that the mechanism, however simple, whereby the primary sounds, or tones, of an instrument are produced, should be carefully diagnosed and described (with sketches where necessary), in order that the instruments may be assigned to their proper groups in the general classification. For this purpose, it is desirable to restrict the use of special names (*e.g.*, harp, violin, zither, flute, trumpet, gong, drum, etc.) to special categories of instruments. Further subdivision can be based upon variation of types within the groups.

It should be noted whether the instruments described are used merely for rhythmic purposes, or whether they are intended for producing melody (*i.e.*, a succession of notes in ordered sequence, a “tune”); also whether two or more notes are sounded simultaneously (“harmony”).

Any methods whereby the primary notes are varied

deliberately—*e.g.*, by “stops” or by “fingering” and so on—should be recorded in detail.

The simplest one-note instrument may serve for melody by associating together a number of the simple units, and sounding them in appropriate sequence. On the other hand, an instrument may be fitted with the mechanism necessary for varying the notes.

The uses to which particular instruments are put should be described; any ceremonial or other restrictions limiting their use should be noted; also the employment of instruments for signalling and conveying information should be described in detail.

Any object, whether natural or artificial, and however simple, which is employed for the purpose of producing sounds (whether “musical” in an aesthetic sense or not) should be included as a musical instrument.

The more important groups and subdivisions of musical instruments are as follows:—

(1) Instruments of inherently **RESONANT MATERIALS** which are caused to vibrate by percussion.

(a) **CLAPPER SERIES**.—Instruments consisting of two *similar* objects which are struck together, *e.g.*, two sticks or two specially-shaped pieces of wood or other material (castanets, cymbals, etc.). Spring-clappers, in which the two parts are united, or hinged together, at one end, the free ends being clashed together.

(b) **GONG SERIES**—in which the instrument consists of a shaped piece of sonorous material (wood, metal, etc.) which is struck with a special striker.

Subdivisions (i) *Simple Xylophone*—a shaped piece of hard wood giving a single note when struck.

(ii) *Compound Xylophone*—consisting of a number of the simple wooden bars, tuned to different notes and associated together (either temporarily or permanently) in graduated series from high to low notes. Note the number of the bars; how they are tuned; whether the sequence of the notes represents a standard scale; and whether the tones are reinforced by the addition of a resonator or a series of resonators (one to

each bar). Where each bar has its own resonator, note whether the capacity of the latter varies with the length of the bar.

(iii) *Hollow Xylophones*—wooden gongs which are hollowed out (like troughs or canoes), so as to increase the resonance. Describe the shape in detail, the manner of striking, and note whether different tones are emitted when different parts of the xylophone are struck.

(iv) *Metallophones*.—Gongs made of metal, which (like the wooden types) may be either solid or hollow and of very variable shape. Simple units may be combined to form compound scales of gong, and one or more resonators may be added.

(v) Similar types in other materials (glass, stone, etc.).

(vi) *Pellet-bells*—more or less globular, hollow bodies, usually of metal, containing one or more loose pellets, which rattle when shaken. There is a slit-like orifice in the casing.

(vii) *Clapper-bells*.—Hollow gongs of wood, metal, pottery, etc., usually widely open below and having the striker suspended inside, so that it swings and strikes the sides when the bell is shaken or swung (alternatively, the clapper may be swung, the bell remaining stationary).

(c) **JINGLE SERIES**.—Consisting of a number of sonorous objects (not necessarily similar), loosely attached together, so as to clash together when shaken.

(d) **SISTRUM SERIES**.—Consisting of a number of perforated disks, rings, or cup-like bodies, loosely “threaded” upon a rod, so as to clash together when shaken.

(e) **HOLLOW RATTLES**.—Hollow bodies (of gourd, wood, pottery, metal, etc.) enclosing a number of loose pellets which rattle when the instrument is shaken. Rarely, the pellets may be attached to string work *outside* and strike upon the exterior of the hollow body.

(f) **MUSICAL RASPS**.—Solid or hollow instruments of wood, bone, gourd, metal, etc., having one or more edges or surfaces serrated or furnished with a number of parallel grooves, across which a stick is drawn, so as to produce a loud, harsh sound. When used singly these are mere “noise-instruments,” but when several, tuned to different notes, are used in

association, melody can be achieved and the effect may be quite pleasing. Various mechanical forms (*e.g.*, the "Watchman's rattle") have been invented.

(*g*) STAMPING TUBES—usually lengths of bamboo, closed at the lower end, which are stamped upon the ground (like pestles); or open tubes which are stamped on a man's thigh. Several differently tuned, may be used in association, for producing melody.

(2) FRICTION INSTRUMENTS.—Instruments of sonorous material (wood, glass, metal, etc.), whose surface or surfaces are thrown into vibration by friction of the fingers; or, in some evolved mechanical types, by friction of special rosined pads.

(3) MEMBRANOPHONES.—Pulsatile instruments furnished with tensely-strained membranes, which are caused to vibrate by percussion or by friction, and to emit sounds whose pitch varies with the degree of tension of the membrane. To these the name *Drum* properly applies. Subdivisions: (*a*) *Single-membrane drums*—in which a membrane (of hide, snake- or lizard-skin, parchment, etc.) is strained across the rim of a wooden or metal hoop (*e.g.*, tambourine), or across one end of a hollow cylinder, or the orifice of a pottery vessel or other hollow body. Played usually by striking the membrane with the fingers, or with one or two beaters.

(*b*) DOUBLE-MEMBRANE DRUMS—in which membranes (or "drum-heads") are strained across both ends of the hollow body, both membranes being used for production of sound. A variant consists of double-membrane drums in which only one membrane is thrown into vibration; the other serving as an attachment for bracing cords whereby the sounding-membrane is strained.

(*c*) FRICTION-DRUMS.—Single-membrane drums having a stick or string fastened to the centre of the tense membrane. In sounding these, the fingers are wetted or rosined and are drawn along the stick or string, causing vibrations which are communicated to the membrane. Friction-drums may be very small or large. In savage life they are usually associated with ceremonial and mystic rituals.

Note.—In describing any type of drum, note especially the material and shape of the hollow body, the material and mode of attachment, of straining and of tuning the membranes, and whether the tension of the membranes can be varied at will; how the membrane is vibrated (*i.e.*, with the fingers, wrists, with drum-sticks, or with pellets attached to the ends of strings, or by friction).

(4) LINGUAPHONES.—Instruments fitted with one or more “tongues” or spars of bamboo, wood, bone or metal, which are fixed at one end, the other end being free to vibrate when plucked or otherwise agitated.

(a) JEWS-HARP SERIES.—Small instruments consisting of a single flexible tongue (or rarely, two) enclosed in a frame to which it is attached at its base. In the primitive types the tongue and frame are in one piece and the tongue is straight; it is caused to vibrate either by jerking a short string attached to one end of the frame, or by plucking the end of the frame itself. In the more developed examples made of metal, the tongue is usually bent so that its free end stands out clear of the frame; in these the tongue is agitated by plucking the free end. The instruments are held to the lips and the vibrations of the tongue are communicated to the air in the hollow of the mouth, and by varying the capacity of the latter a variety of notes can be achieved.

(b) SANSA SERIES.—Instruments consisting of a number of flexible tongues of bamboo, wood, or metal, whose bases are attached to a board or to a box-like resonant body; the tongues are supported by a bridge so that their free ends can vibrate freely when plucked with the fingers or thumbs. The length of the tongues can be adjusted and varied, so that a series of notes can be produced, varying with the length of the vibratile portions of the tongues. The tongues may be arranged in graduated series from the shortest to the longest, or they may be disposed irregularly in order to adapt them to a particular melody.

The “musical-box” is an elaborated mechanical analogue of the *sansa*, from which it may have been derived. Essentially it consists of a steel comb with graduated vibratile tongues,

plucked by short pins fixed into a mechanically revolving barrel.

(c) NAIL VIOLIN SERIES.—A series of short rods with their bases fixed to a resonant body, the other ends being free. They are graduated in length and tuned to give the notes of the scale. They are vibrated by the friction caused by drawing an ordinary fiddle-bow across them. "Nail-violins" were sometimes fitted with sympathetic strings, p. 308.

WIND INSTRUMENTS

Instruments which are caused to sound by directing a jet of air against the edge of an orifice, or through a valve, in such a way as to set up vibrations producing musical tones.

(1) FLUTE SERIES.—A jet of air, directed by the lips or through a duct, is caused to impinge upon a portion of the edge of an orifice in a hollow tubular or globular instrument. This causes the jet to be cut, so to speak, the interference creating vibrations which are communicated to the air inside the hollow body.

(a) SYRINX, OR PAN-PIPES GROUP.—These may be single tubes, open above and closed below, or open at both ends. The jet of air is directed against the edge of the upper opening. [A tube which is open at *both* ends will give a note an octave above that given by a tube of similar size which is closed below.] Two or more of the simple tubes of varying length may be combined to form a compound syrx (the typical Pan-pipes). The tubes may be arranged in graduated series, or may be variously grouped to suit some particular melody or sequence of notes.

(b) END-FLUTE GROUP.—Cylindrical tubes, usually open at both ends, sounded by blowing across the upper edge, which is usually bevelled; a series of open stops along the lower part of the tube enables a variety of notes to be produced, since, by opening or closing the stops, the vibratile length of the column of air in the tube is varied. These flutes are held nearly vertically in playing.

(c) TRANSVERSE-FLUTE GROUPS.—Cylindrical tubes, closed at the proximal end, near which is a sound-hole against the edge

of which the jet of air is directed. The tube is usually furnished with open stops. Held horizontally in playing.

(*d*) NOTCHED-FLUTE GROUP.—These are “end-flutes” having a notch cut in the edge of the upper opening, thus specializing the portion of the edge against which the air-jet is directed. Usually furnished with stops. Held vertically in playing.

(*e*) DUCT-FLUTES.—End- or transverse-flutes furnished with some kind of duct through which the air is automatically directed against the edge of the sound-hole. The form and construction of the duct varies greatly among the more primitive types and should be carefully noted. The “flute-à-bec,” modern whistle, and flageolet are evolved members of this group.

(*f*) AEOLIAN FLUTES.—Tubes or other hollow bodies having natural or artificial perforations, which are caused to sound by the wind as it blows across the perforations.

(*g*) WHISTLING-ARROWS.—pigeon-whistles, humming-tops, etc., are varieties of “flutes” which are driven against the air.

(2) VALVE-INSTRUMENTS.—Wind instruments whose primary sound is caused by the action of some kind of valve-like mechanism, which causes a very rapid succession of checks to the free passage of the air jet, and thus sets up vibrations which are communicated to the column of air inside the tube.

(*a*) SINGLE-BEATING-REED SERIES (or Clarinet group).—In the more primitive types, of reed, corn-stalks, etc., the tube is closed above and open below. Near the closed end a flexible tongue is cut in the side of the tube. The tongue remains attached by its base and forms a valve; the free end is caused to vibrate by air pressure, the orifice covered by the tongue or reed being closed and opened in very rapid succession, creating vibrations. The resultant notes can be varied by the use of stops. In more advanced types the tongue-valve is cut in a separate piece of reed or bamboo, which is fixed into the open upper end of the tube. The modern clarinet is a developed form of this type, having the “valve” sounding-mechanism built up, the tongue being separate from the mouthpiece.

(*b*) DOUBLE-REED SERIES (or Oboe series).—In these the “valve” is in the form of a slit-like orifice having thin, elastic

walls, both sides of which vibrate when blown upon, alternately closing and opening the "valve" in rapid succession and thus creating the necessary vibrations. The note is varied by use of stops. Note particularly the material and structure of the "valve"; whether it is a natural cylinder whose sides are pinched together at the end, or whether it is built up from two or more pieces. The sounding-reeds of the modern oboe, the *cor anglais* and the bassoon are evolved forms of this type of "valve."

(c) FREE-REED SERIES.—In these the sounding-valve consists of a vibrating tongue enclosed in a frame to which it is attached at one end, the other end being free to oscillate on either side of the frame. Simple forms are merely cut out of a thin piece of bamboo, wood or brass; the advanced types have the tongue of springy metal screwed to the frame. The instrument may consist of a single tube fitted with a free-reed and may have a series of stops for varying the notes. Or it may consist of a number of tubes, each with a "free-reed," set in a common air chamber. "Mouth-organs" are comparatively simple types; concertinas, accordions and harmoniums are developed types, fitted with keyboards.

Note.—Some composite instruments combine two or more of the sounding mechanisms above described (*e.g.*, some bagpipes, church-organs, etc.).

(d) SPINNING-VALVE SERIES ("Bull-roarers").—Thin, elongated wooden blades (rarely of other materials) to one end of which a string is fastened, the other end of the string is frequently attached to the end of a stick. The wooden blade is whirled round at the end of the string, so as to drive it against the air and cause it to spin very rapidly, and so to present its sharp edge and its flat surface to the air resistance in rapid alternation. An effect is produced analogous to that produced by a valve alternately closing and opening, and the intermittent checks set up vibrations creating sound which varies in pitch with the rapidity of the spin of the blade. It is important to note any ceremonial or mystic ritual attaching to the use of this instrument, and any restrictions imposed upon its use.

(e) SLIT-VALVE SERIES.—A rather rare class of simple wind-instruments whose sound is produced by blowing air through a very fine slit (or series of slits) cut longitudinally in a reed-stem or grass-stalk.

(f) OSCILLATING-RIBBON-REED SERIES.—The sound is produced by blowing upon the edge of a thin blade or ribbon-like band which is strained between its ends. (This may be a blade of grass, a very thin strip of bamboo or tape strained between the ends of a small bow, or a piece of feather-quill flattened and strained with a bow-string, etc.) The pressure of the air causes the blade or ribbon to oscillate alternately one way and the other in rapid succession, setting up vibrations causing sounds. The South African *goura* is a specialized type of this group.

(g) TRUMPET SERIES ("Loose-lip" instruments).—These are sounded by blowing air through a relatively large aperture into which the lips are tightly pressed. The air-current in passing throws the edges of the lips into vibration (the lips being elastic membranes), the lips performing a function analogous to that of a valve which in rapid alternation allows and checks the free passage of an air-current. The notes produced can be varied within harmonic limits by the action of the lips, and the more rudimentary types of trumpets (of shell, horn, ivory, wood, gourd, pottery, etc.) usually have no mechanical means of varying the notes; the same applies to some evolved types in metal (e.g., the bugle, post-horn, etc.). But the intermediate notes not obtainable by unaided lip-action, may be sounded by varying the vibrating length of the air-column by means of stops, slides (e.g., trombone), or pistons (cornet). The *embouchure*, or sound-orifice, may be at the side or at the end of the tube.

SYMPATHETIC-MEMBRANES.—Many of the types of instruments referred to in the foregoing classificatory groups are fitted with a peculiar accessory in the form of a small piece of very thin membrane strained across a hole in the instrument. This membrane picks up automatically the sound-vibrations set up in the instruments and, by its own vibrations, serves to modify the tones and give them a kind of "reedy" or

"buzzing" quality. In Africa, drums, *sansas*, and xylophones frequently have such membranes (usually obtained from the egg-capsules of spiders) added to the resonator. Among wind-instruments, certain types of flutes (in China, Siam, Europe) have a membrane covering a small hole in the side of the tube. Certain instruments have two orifices, one into which the performer hums or speaks; the other covered by a thin membrane which vibrates and alters the quality of the sounds produced. (These are mere toys in Europe, but are serious instruments in parts of Africa). The *nyastaranga* of Brahmanic ritual in India, is a specialized type in which a thin membrane is fixed near the "embouchure," which, instead of being held to the lips, is pressed against the outside of the throat, the membrane picking up the vibrations of the larynx when the performer hums or speaks.

STRINGED INSTRUMENTS

Instruments furnished with one or more tightly strained strings which emit notes when thrown into vibration by (a) plucking, (b) striking, (c) friction, (d) wind. The pitch of the notes given by a vibrating string will depend upon the length of the vibrating portion of the string, the degree of tension, and the weight of the string.

(1) EXTEMPORIZED MONOCHORDS.—Single strings tightly strained and bridged, either near the two ends and capable of emitting one note only when struck or plucked; or towards but not *at* the centre, so as to furnish two unequal vibrating lengths, giving two different notes.

(2) SPLIT-STRINGED INSTRUMENTS.—These form a special group of instruments of reed, bamboo, or palm-leaf stalks, having one or more strings formed by prizing up very narrow lengths of the cortex, leaving them attached at their extremities. These split-off strings are bridged up near their extremities (or in some types near their centres), to raise them from the surface, so that they can vibrate freely when struck or plucked. Of the polychord examples, two chief types can be differentiated: (a) those instruments, usually of stout bamboo or palm-leaf-stalk, having several strings so formed upon the

single body or rod ; (b) those which are composed of a number of slender reeds each carrying a single string, bound together to form a compound instrument. Note any accessories, such as resonators, which may be added.

(3) MUSICAL BOWS.—Simple bow-like monochords (or, rarely, fitted with more than one string).

(a) *The ordinary shooting-bow* temporarily converted into a musical instrument ; the string, which may be divided into two unequal vibrating portions by tying a string loop round the bow-string and the bow, is either struck or plucked, or, rarely, vibrated by friction. The bow is usually held with a portion touching the teeth of the performer, so as to magnify the sounds to his ears ; or the bow may be rested against a gourd, pot, or other external resonator, to augment the sounds for the benefit of an audience.

(b) *Monochord instruments* resembling the shooting-bow in structure, but made for musical purposes only. The notes may be reinforced as before.

(c) *Derivatives* from the above, in which the “bow” is straight and the string is bridged up near its ends to allow of vibration.

(d) *Simple musical-bows* having a resonator (e.g., a gourd) attached to the bow.

(e) *Simple musical-bows* fitted with more than one string.

(f) *Compound musical-bows*, consisting of two or more “bows” united together to form a polychord instrument. The bows may be attached to a common resonator, and the plane of the line of strings is more or less parallel to the surface of the resonator.

(g) *A variant* in which a single bow is substituted for the several bows and is fixed to a resonator. All the strings are attached at their upper ends to the “bow,” one above the other ; at their lower ends they are attached to the resonator surface, or, after passing over a notched, vertical bridge, indirectly to the end of the “bow,” which projects beyond the resonator. The plane of the strings is at right angles to the surface of the resonator.

(4) PRIMITIVE AND "ORIENTAL" HARPS.—Polychord instruments, whose framework consists of a box-like resonator (usually elongated, hollowed out and covered with hide or parchment), from one end of which issues a long "neck," which is either curved or set at an angle to the resonator. The strings are attached at one end to the neck and at the other to the surface of the resonator along the median longitudinal line. The plane of the line of strings is at right angles to the resonator surface. The strings, which are plucked with the fingers, may have tuning pegs for regulating their tension, or they may be simply wound round the "neck" (as in the Burmese harp). Practically all African and Oriental harps are of this type, and as the framework lacks rigidity, the strings can at best be only approximately tuned to a scale.

(5) THE DEVELOPED, OR "WESTERN" HARP.—The essential structure is similar to that of the last group, but a prop, or "fore-pillar," is fixed between the free ends of the "neck" and resonator. The framework is thus rendered triangular and rigid, and more effectively stands the strain of the strings, which can be accurately tuned, since tightening one string does not involve slackening all the others, as happens in the former group. The strings are plucked with the fingers, both hands being used.

(6) ZITHER SERIES.—Instruments in which several strings are stretched across a flat board, or across the hollow of a shallow trough-like body, or across the upper surface of a box-like resonator. The line of strings is in a plane parallel to that of the resonator surface and lies close to it, the strings being either bridged up at both ends, or provided with fixed or movable bridges towards their centres. Each string is tuned to a particular note, which usually is not varied by "fingering." The strings are *plucked* with the fingers or with a plectrum. (The Spinnet, Virginal and Harpsichord are highly evolved zithers, fitted with a keyboard and having a plectrum of quill for each string.)

(7) DULCIMER SERIES.—Generally similar to the last series, but the strings are *struck* with light beaters, instead of

being plucked. (The Clavichord and the Pianoforte are evolved keyboard types of dulcimers.)

(8) LUTE-GUITAR SERIES.—Instruments having a resonant body and “neck.” The strings (usually few in number) are attached at one end to the “neck,” at the other to the distal end of the resonator, and they lie in a plane parallel to the surface of the latter. The notes to which the strings are tuned can be varied by “fingering”; one hand being thus occupied, while the other plucks the strings with the fingers or a plectrum. By varying at will the vibrating portion of the strings, by the action of “fingering,” a very wide range of notes can be obtained with a few strings.

(9) LYRE SERIES.—Instruments having a hollow resonating body from which project two upright rods whose upper ends are united by a transverse bar, forming an open, trilateral, and rigid framework. The strings, which may be numerous, are attached at one end to the transverse bar, and at the other end to the resonator, being strained across the open space between the two. They are plucked with the fingers or with a plectrum. [A very rudimentary type of lyre consists of a triangular frame formed by the V-shaped junction of two branches of a tree, with a cross-bar uniting their free ends. There is no resonator.]

10) INSTRUMENTS WHOSE STRINGS ARE VIBRATED BY FRICTION.—These usually consist of a resonator and a “neck” between the distal ends of which the strings are strained. They are caused to vibrate by drawing across them a friction appliance, which may consist merely of a wetted blade of grass, a thin strip of palm-leaf or bamboo, or of fibres or hairs stretched upon a small bow; or it may be an elaborated instrument such as the modern fiddle-bow. Rosin, or its equivalent, is usually applied to increase the friction. The strings are usually few in number and their notes are varied by fingering, or “stopping” the strings along the “neck,” so that all the notes of the scale are attainable.

In a specialized group of friction instruments (the *vielle*, *hurdy-gurdy*, etc.), a rosined wooden wheel, rotated by a

crank, is substituted for the fiddle-bow, and a keyboard is added, for stopping the strings.

(11) AEOLIAN STRINGED-INSTRUMENTS.—Instruments, usually of zither-like structure, whose strings are thrown into vibration by wind. The instruments are placed so that the wind blows across the strings, which are all sounded together, causing an attractive medley of soft notes.

(12) SYMPATHETIC-STRINGS.—These are added to a considerable variety of stringed instruments (see also "Nail-violin," p. 300). They consist of a supplementary series of thin wire strings which underlie the primary set of strings, and are not caused to vibrate by any of the usual methods. The "sympathetic strings" are tuned either in unison or in some harmonic relationship with the primary strings, and, when the latter are caused to vibrate (by plucking, striking or friction), the "sympathetic-strings" pick up automatically the vibrations to which they are responsive. As they are not subjected to "fingering," their vibrations are sustained and die away gradually. This "background" of sustained notes gives a peculiar quality to the melodies performed on these instruments. Sympathetic strings are widely used in India. In Europe the *viola d'amore* and some other instruments of the violin family were fitted with them.

The classification of musical instruments here given is intended merely as an aid to the description of such types as may be met with. The list is by no means exhaustive and the groups could be further subdivided. The classification adopted is based mainly upon the different methods whereby the vibrations required for the production of sound are initiated. It is very important to collect all examples of rudimentary types of musical (or noise) instruments before they become entirely obsolete. There is a tendency for primitive types to be retained for ritual purposes, and the special instruments associated with ceremonial and mystical performances should particularly be sought for and placed on record.

WRITTEN RECORDS OF MUSIC

The peculiarities of non-European music, and of folk-music even in Europe, are often such that they cannot be accurately transcribed by means of ordinary musical notation; they require additional signs, and full verbal commentary. If time permits, it is a good thing to hear the whole of a piece of music first, and thus to obtain some general idea of its character before beginning to transcribe it. No attempt should be made to alter anything in the pitch, rhythm, or otherwise, of the music as played or sung by the people themselves, which may appear incorrect or strange. The more faithfully the apparent defects are preserved, the more valuable is the record. If the rhythm is simple, and comparable with ordinary European rhythm, the *tempo* should be ascertained by means of a *metronome*; an inexpensive and silent instrument can be obtained at any good music shop. The metronome must not be placed where the performer can see or hear the pendulum, or he may instinctively sing in time with it. In such music as this, variations in *tempo*, the lengthening of particular notes, and other peculiarities which are clearly due to expressive and emotional causes, may be noted down in strict time, and modified in the written copy by the usual pauses, *rallentandos*, *accelerandos*, and other marks of expression. But many kinds of barbaric music have rhythms so complicated that the metronome is useless, and must be recorded mechanically; *v. Rhythmograph*, p. 315.

In the same way the absolute pitch of the composition should be determined by means of a *pitch-pipe* or *tuning-fork*. If the music contains intervals of less than a semitone, it should be noted down on an enlarged staff, or special signs may be placed over or under the notes. But many kinds of music use intervals which are so unlike those of European music that the ordinary notation is inadequate. All music of this kind should be recorded if possible on the *Phonograph*, p. 311.

If music is accompanied by words, the text should be written syllable by syllable, under the notes to which they are sung.

Even if a song be phonographed the words should be written down separately, because sung words are not always clearly reproduced on the phonogram. Note that sibilants are especially likely to be indistinct. Record also (especially to supplement the phonograph) the character, timbre, and range of the voices; the number of the performers, and the way in which their respective voices are used in the composition; whether in turn, in chorus, unison, harmony, and so forth; their attitude, demeanour, and gestures (*v.* DANCING, p. 318); and, if possible, use the *kinematograph* in conjunction with the phonograph. Describe the use of all *musical instruments*, p. 295: also all instrumental or other accompaniment to singing, such as clapping, stamping, or inarticulate cries.

Note fully the occasion on which each song or piece of music was recorded, and whether it is for general use, or appropriate to a particular occasion, occupation, or class of performer; note all beliefs about the origin of music in general, or of particular pieces of music, all musical theory, and all observances connected with music or musicians. In some peoples music is general; in others, at least certain forms of it are confined to a special profession or guild. The social position of these guilds, and the methods of transmission and instruction of musical ability within them should be investigated. Is a minstrel's music peculiarly his own, or are there popular songs and tunes known to all and used by all? Are children taught to sing and play instruments? If so, by whom?

Musical Vocabulary.—Any musical terms employed by natives should be ascertained; for example, their words for "high," "low," "loud," "soft," "noise," "tone." The different styles of music, modes, and rhythms which are recognized and the names, if any, which they give to these, should be inquired into. If any musical notation exists, this should be carefully investigated.

MECHANICAL RECORDS OF MUSIC

In this section, the following instruments and the mode of their employment in the field are described: *phonograph* (below), *rhythmograph*, p. 315, variable *pitch-pipes*, p. 316, and *tuning-forks*, p. 317.

The *Phonograph* enables an ethnologist of little or no musical ability to collect musical material which can be worked out by a specialist at home. But if the traveller can use the ordinary musical notation, he should also write down every tune which he records on the phonograph.

A complete outfit for making and reproducing phonographic records, consists of (1) phonograph and accessories; (2) wax cylinders, also called blank records or "blanks"; (3) recorder and reproducer; (4) pitch-pipe; (5) spare parts in duplicate.

(1) There are several good phonographs on the market. Unless weight is an important consideration, the lighter and cheaper kinds are not to be recommended, as their clockwork is liable to run irregularly, and in other ways they wear badly. A thoroughly reliable instrument, weighing about 20 lb., can be bought, with all accessories and spare parts, for about £6.* The accessories consist of trumpet, oil can, and oil.

Probably the most generally convenient form of trumpet is one measuring five to six inches in diameter at the mouth and twelve to fourteen inches in length.

(2) The wax cylinders or "blanks" are extremely fragile, but the manufacturers have learnt to pack them successfully. They are supplied each surrounded with lint or oiled paper and packed in a separate cardboard box. Their efficiency is sensibly affected by the temperature; the best results are obtained between sixty and seventy degrees, according to the particular make of the cylinder. If they are taken out to the damp heat of the tropics, each blank, wrapped in lint, or, preferably, in oil-paper, should be enclosed in a tin case, as a

*Edison Bell, Ltd., Glengall Road, London, S.E.15, supply a model, price £6 6s. 0d., "Blanks" 1s. 6d. each. This machine was used by the late Sir Harry Johnstone in Central Africa with satisfactory results.

mould is apt to form on the wax, and this seriously interferes with the efficiency of the record.

(3) The same phonograph can be used with different fittings either to record sounds or to reproduce them. Several varieties of recorders and reproducers are on the market. It is important to explain to the maker before purchasing for what special purposes the recorder is to be used.

(4) The pitch-pipe may be the same as is used for written records, p. 309. Its exact pitch may be determined by comparing it with a tuning-fork of known vibration frequency, but for practical purposes it suffices if the name of the note, and the kind of pitch (*e.g.*, concert pitch) be ascertained beforehand.

(5) A spare recorder and a spare reproducer should be included in the outfit as well as spare screws and screwdriver, cement, etc., in case of breakage. It is also advisable to take a spare leather band, and a trumpet, oil can, and pitch-pipe in duplicate.

In order to obtain a phonographic record or "phonogram," a blank cylinder is placed on the phonograph, the trumpet is affixed to the recorder, the clockwork is started, and the style, or sharp point of the recorder, is lowered on to the surface of the cylinder. The sounds which it is desired to record are then produced before the trumpet close to its mouth. To reproduce the record, the recorder is replaced by the reproducer; otherwise there is no change in the apparatus.

It is important that the cylinder should be adjusted to rotate at the same speed during reproduction as during the taking of a record, since the speed determines not only the tempo, but the pitch of the sounds emitted. Before taking a record, care should be taken that the clockwork is fully wound up, since the cylinder rotates more slowly, as the clockwork runs. The rate of rotation of the cylinder should be about two or three revolutions per second. It can be readily determined by very slightly resting the finger on the small wheel over which the leather band passes. For soft or slow music the rate of revolution should be faster.

Just before any record is taken, a pitch-pipe is sounded

before the trumpet. As the note of this pitch-pipe is known, it serves as a gauge of the speed of rotation when taking the record, and it should be recorded on each blank at the time of use. The faster the record rotates during reproduction, the higher the pitch of any note. Consequently, in reproducing the record, if the cylinder rotates at such a speed as to emit the sound of the pitch-pipe at its original pitch, we can be sure that the rest of the record is reproducing sounds in the same pitch as that in which they were actually sung during the taking of the record.

It will sometimes be found convenient to leave a space of half-an-inch blank at the start of the record. This space is to receive the title of the song and a number which must correspond to that in the inquirer's notebook where full details (to be mentioned later) should be added. If possible the title and number should be spoken before the record is taken. Then follows the sounding of the pitch-pipe, and this should serve as a signal for the musicians to begin. Of course the clockwork must not be stopped nor must its speed be altered after the pitch-pipe has been sounded.

The inquirer must use his own judgment as to whether it is desirable to reproduce the record immediately before the natives who have sung into the instrument*; at all events, when once taken, records should be reproduced as seldom as possible. The title and number of the record should be written on the outside of the lid or cardboard case containing it, and it is advisable that the records be safely packed and returned home without needless delay. There they can be mechanically copied on to other cylinders, or permanent moulds may be prepared from which duplicate copies can be made for the purpose of analysing the music.

The phonograph can be employed for recording both vocal and instrumental music, whether solo, choral, or orchestral.

*Natives are usually delighted to hear their own songs and speeches reproduced on the phonograph; in such cases a friendly feeling is induced, which is very advantageous in other respects. It is suggested that a few records be taken solely for this purpose in addition to those required for future study; thus it does not matter if the former are spoiled.

It will generally be found that some persuasion is necessary, before the natives will consent to sing or play into the phonograph. Before a record is taken, a rehearsal of the music is always desirable, especially if the performers have had no experience of the phonograph. Care should be taken to exclude, as far as possible, all extraneous sounds while the record is being made. Not always will the most powerful voice yield the most successful phonogram. Jarring sounds are certain to occur if the voice of a powerful singer falls obliquely on the trumpet. The performer should be placed directly before its centre, and quite close to it, unless his voice is very powerful. If a group of voices or instruments are making the record, they should be arranged in a semicircle before the phonograph, with the most important soloists nearest to the trumpet. If the piece consists of several different parts played simultaneously, the traveller should take several records placing different singers or players in the foreground in different records. This facilitates subsequent analysis.

In instrumental music the inquirer should use the phonograph to record the pitch of any more or less fixed notes, given by stringed instruments, pipes, whistles, gongs, and to record the rhythms and the variation in pitch of any rattles, drums, and other instruments of percussion, the rhythms of which can also be studied, if necessary, by aid of the rhythmograph, p. 315.

Of important and interesting songs it is desirable to take several records from different individuals or from the same individual at different times, in order to determine variations in intonation and expression.

In his notebook the inquirer should enter the date, the number of the tune, full details of its title, the tribe or people to which it belongs, the name, age, tribe, and abode of the performer, the use to which the tune is put, its source, and, if possible, the name of its composer. After each song is taken, the words should be carefully ascertained and entered in the notebook, together with their meaning so far as it can be discovered. Many peoples have songs of such antiquity that the significance of the accompanying words has been entirely lost.

These songs may be sacred, and their music may differ from that in modern use. Very great persuasion may be necessary before evidence of this ancient music can be obtained.

The *Rhythmograph* is an instrument for recording and subsequently analysing the complex rhythms which are in use in many parts of the world.* In place of the drum, stick, or rattle usually employed by the native, a special drum is provided and the beats made upon it by the performer are communicated to a lever which marks on a rotating smoked paper surface. Below these marks are recorded others, made by a small pendulum every half second. The accessories of this instrument consist of the specially prepared sheets of paper, and varnish for protecting the record. An ordinary paraffin lamp, or cooking stove, is needed for smoking the paper: the wick should be turned well up. Remove the cylinder of the instrument, and fix the paper to it by means of its gummed edge. Then smoke over a smoky lamp, and replace the cylinder on the stand. Wind the clockwork fully, and arrange the two levers so that they touch lightly on the rotating surface and mark the movements of the drum and of the pendulum respectively. Adjust the pendulum, and make a note of the title of the rhythm which you are studying, on the smoked surface below the record. At the same time, enter in your notebook the fullest information you can obtain. When the record is made, cut the paper and remove it from the cylinder. It should then be drawn face downwards through a dish of varnish, and pinned up to dry.

The *pitch-pipe* and *tuning-fork* are described, pp. 316, 317.

The following general observations on the musical ability of a people are of value, if they are supported by actual instances accurately described and recorded.

Voices.—The range of native voices should be determined. Note should be made of the use of falsetto, tremolo, glissando, and of the methods, if any, of expressing sadness, joy, irony, and emphasis in their music. The inquirer should also observe

* This instrument can be supplied to specification by W. and G. Pye & Co., Granta Works, Montague Road, Cambridge.

the general structure of the tunes, the frequency of solos, part songs, choruses, refrains, etc., any special regulations for the use of particular modes or instruments, any special methods of singing appropriate to special occasions, the use of sacred whispered words, the value attached to the words of songs generally, the characteristics of women's and children's songs, and the alterations, if any, of men's songs in the presence of women, children, or strangers.

Attitude to Foreign Music.—For various reasons the traveller will find it convenient to take with him a few records of European music. These he should allow the natives to hear, with the express object of obtaining their judgment and criticism thereon. He should also make records of any well-known tunes, for example, hymn tunes, which they may have adopted from Europeans, so as to obtain material for studying the variations which such tunes undergo in the course of adoption.

Awareness of Absolute Pitch.—It is well known that among certain musically gifted Europeans any note played or sung can be instantly named, and that if confused at all the note is apt to be mistaken for its octave than for any less distant tone. Thus each individual tone comes to be absolutely recognized and remembered by such persons. Some persons are found to excel in naming a given tone, others in reproducing the pitch of the tone when merely its name is given.

Hitherto little work has been done to determine the presence of this awareness of absolute pitch among primitive people. In the absence of tone nomenclature, the inquirer may be expected to find evidence of it, by observing whether the same melody is produced on different occasions in the same pitch, and whether the instruments are always attuned to the same pitch, or by conducting experiments, preferably with the aid of the phonograph, in the following manner:—The subject sounds either vocally or on a native instrument a tone or a musical phrase, and after a prescribed lapse of time the subject tries to repeat this tone or phrase in precisely the original pitch.

By means of two variable *pitch-pipes*, or more conveniently

by the *Reisetonometer*,* the inquirer can play consonant or dissonant intervals before the more intelligent and musically gifted of the natives, and obtain their aesthetic judgments thereon. Various pairs of such intervals may be sounded, and the native may be asked which of the two intervals is preferred. But systematic and repeated experiment is necessary before any reliance can be placed on such answers. Intervals may also be played with advantage on native instruments.

Smallest Perceptible Difference of Pitch.—Two tuning-forks of the same pitch ($c' = 256$ vibrations per second), dismounted from their resonance cases, are required for this experiment, which is tedious and should only be employed by an inquirer who has fully gained the goodwill of the natives.† A prong of one of the forks is graduated by a series of fine cross lines ruled one centimetre apart. This prong is provided with a sliding clamp, which can be firmly fixed at any position on the scale and lowers the pitch of the fork the higher it be raised on the prong. The forks are best sounded by being hit on the experimenter's knee and then applied successively to the same ear of the subject who sits in front of, and with his back to, the experimenter. Each tone is sounded about two seconds, and the same period intervenes between the sounds of the two forks. The actual difference in pitch of the two forks at a given position of the clamp is easily determined at any time by counting the frequency of the beats when the forks are sounded simultaneously. Thus if three beats per second are counted, the difference in pitch between the sounds at this position of the clamp amounts to three vibrations per second.

Throughout the investigation the experimenter should be careful to sound the higher tone before the lower, as often as he sounds the lower before the higher. The fork, which is weighted with a clamp, always gives the lower tone. On each occasion he records in his notebook which fork came first, and the answer of the subject, who has to decide whether the

*Such pitch-pipes are obtainable at most music shops. The *Reisetonometer* is sold by Zimmerman, Wasserturmstrasse 33, Leipzig, price £5 5s. 0d.

†The *Reisetonometer* (see previous footnote) may with less accuracy be employed in the absence of tuning-forks.

second sound is lower or higher than the first, or whether both are of the same pitch. The experimenter starts with a pitch difference which he knows to be appreciable without difficulty by the subject. Some preliminary practice is necessary, for the experimenter to accustom himself to sounding the tones with constant loudness, and for the subject to understand clearly what is required of him, and to give the experimenter a rough idea of the size of the interval which is too small for his appreciation. Having received five correct answers, the experimenter reduces the pitch difference by a fixed amount and sounds the pairs of tones again five times. He proceeds thus until one error in five judgments is obtained. Then the same pair of tones presented five times more, and, if another mistake is made, this pitch difference is taken as the smallest appreciable; that is to say, two mistakes in ten answers are assumed to indicate the threshold. If the subject be not too fatigued, or upon some other occasion, the difference may be still further reduced, and then increased little by little, until once again a point of just perceptible difference is reached. This value will probably not agree with that previously reached. The mean of the two values may be taken to give the smallest perceptible difference of pitch.

DANCING

Dancing, like other arts, includes representations of states of feeling, or of events and occupations, or imitations of objects such as animals in motion; and these representations may be naturalistic, or more or less conventional. Imitative or mimetic dances must be described with reference to the performer's motive (as elicited from native testimony, not as merely guessed at by the onlooker), and to the movements, gestures and external aids, such as costume, by which he gives expression to it. When such dancing attempts the narration of a series of incidents, it passes over into pantomimic drama, p. 320.

There are also many formal dances in which it is difficult to detect an intention to represent anything. The gestures

and other movements are here mainly formal, like the patterns of decorative art; and are performed either for the pleasure which they afford, or for some symbolic reason, as part of a religious or social ceremony. There are, of course, intermediate instances, in which the meaning of a dance is not apparent but is preserved by tradition or in its name; or where a conventional but still clearly mimetic dance is executed by combining formal steps and gestures.

Records of dances are best made by the kinematograph, and by the phonograph for the music and singing, pp. 379, 311. Observers who are themselves trained dancers may also be able to record the steps by a written notation. In any case the evolutions of individual dancers and the concerted movements of figure-dancing can be described in writing with diagrams. A descriptive notation-symbol may then be given to each, to shorten the description of more complicated movements in which they recur. All native names for steps and figures should be recorded and employed as far as possible. Any native systems of teaching dancing, with its technical terms and standards of criticism, would be of special interest.

Photographs should be taken, showing each important moment of the dance and the appearance of the dancers. Costumes, decorations, and accessories should be minutely described; they may have ritual significance, and they are sometimes valuable evidence for migration or transmission of culture.

Dances may be held in conjunction with religious or other feasts. Inquiries should always be made as to the occasion of a dance and who come to it, noting what social or local groups are present. There may also be special seasons when dances are held which appear to be purely social functions, it should be discovered who is responsible for such dances and whether invitations are sent.

Dances are often owned by groups or individuals, note how these can be transferred (bought, or borrowed) to other groups or individuals, and what is done when these are copied without permission.

Are new dances invented, and is the inventor honoured or

paid in any way? Records of the history of any dances would be of interest. What is dancing called, and what purpose is it supposed to serve? Make notes of any spontaneous, unorganized dancing?

Is there a definite age at which an individual begins and ceases to take part in dances?

Do the sexes dance together or separately, or in separate groups which meet?

DRAMA

Closely connected with music and dance are all the simpler forms of drama. Under this head it is convenient to include all performances, where action is used to rehearse actual, legendary, or mythical events, otherwise than as a pastime. (*v. GAMES, below.*) The action may take place in dumb-show, or may be supplemented by speech, song, instrumental music, and more or less mimetic dance (*v. MUSIC AND DANCING, pp. 295, 318*).

Note, in regard to all dramatic performances, the place, date, and occasion (*e.g.*, is a play performed, like English Mummers' plays, at a special church season? or is it performed at some fixed point in the calendar year, such as Midsummer Day, etc., after a death or some other event of importance?). The number, status, and organization of the performers; all provision, either temporary, or permanent for the convenience of actors or audience; all accessories, such as costumes, masks, or other make-up, manikins, puppets or other images, stage properties, scenery, and artificial lighting, if any. Are any shadow-plays performed? Obtain specimens or models of all these, and particularly of masks. Who may perform drama? Are there temporary or permanent companies of players? If permanent, note their status, habits, and how they are maintained. Obtain a full account of each dramatic performance which is observed, including, if possible, the exact words, music, dances, and habitual gestures, and make full use of diagrams, sketches, and photographs, and, if possible, of the kinematograph and phonograph.

It is better to avoid general expressions such as tragic and comic, and to describe rather (1) the subjects of each performance, which may be a folk-tale or legend, or an historical incident, or drawn from current events, or daily life ; (2) the reasons given by the people themselves for its selection on that occasion ; and (3) the expressions of emotion, if any, which are evoked by it. Is the story familiar to the audience beforehand ? How are the words, business, etc., of the drama preserved, and taught to performers ? How are new plays, or new features, invented, produced, popularized ? Dramatic performances are frequently part of a ceremony and should be described in their appropriate places.

GAMES AND AMUSEMENTS

Games are worthy of special study, and they may be primarily for amusement, and played whenever suitable opportunity arises. It should, however, be particularly noted whether any games or pastimes are confined to one sex, to certain ages, to particular groups or ranks, to ceremonial occasions, or to particular seasons. If there is opportunity, join in a game and learn to play it yourself. Games should be recorded fully, if possible, with photographs and drawings. Collect toys, and the implements used in games.

Games may be classified as : (1) *Games of movement* that incidentally or purposefully develop and exercise the bodily powers : such as games of agility, strength, endurance, skill and the like. Examples are : leaping, climbing, boxing, wrestling, sham-fights, throwing of missiles, feats of horsemanship, aquatic sports, shooting game or vermin for sport. (2) *Games of dexterity* which exercise the memory and develop manual dexterity, such as string-figures and tricks, p. 323. (3) *Games of skill and calculation*, without apparatus (morra), or with (mancala, chess). (4) *Games of chance*, with particulars of the dice, other apparatus, and stakes ; superstitions connected with chance. (5) *Amusements with animals* include baiting tame or captured animals, and setting animals to fight. Note the training of the animals, the conditions of the

fight, and any weapons and defences which are provided. (6) *Dancing and dramatic acting* are often practised for amusement, v. DANCING, p. 318. (7) *Shows and professional performances*. The foregoing are mainly the diversions of adults, but most of them are to some extent played by children. More particularly played by the young are (8) *Round games* of simple amusement in which singing is a frequent accompaniment, some of these may be played without any special appliances ; but where such occur, the objects, as well as the game and songs, should be described.

Toys may be simple, such as dolls, tops, balls, kites, etc. ; others imitate the contrivances of grown-up people ; there are mechanical toys, and musical toys. It is occasionally found that a toy is a survival of a ritual or practical object which is no longer employed as such by the adults.

The spirit of emulation enters into the majority of games, and usually the contest-element masks other features of the games. An important point to remember is that a game is frequently a simplified and secularized ceremony of an older culture, or it may be but the merest vestige of a rite or social custom. Note the ditties or formulae which accompany games ; they often contain archaic words and phrases. Besides the sex, age, and status of the players of games, note what games are considered manly or unmanly ; whether active or sedentary games, individual contests, or games played between sides or teams are preferred ; if the latter, how are the sides chosen, organized, and led ?

Note *betting and gambling* in connection with any amusement, or social, or religious occasion ; whether the betting is done by the players or bystanders ; what are the stakes, the social effect of the practice, and the state of public opinion or the matter ?

The partaking of narcotics and stimulants of various kinds may be regarded from the point of view of an amusement, though it usually subserves some social or religious purpose. What is the normal attitude towards drunkenness ?

STRING FIGURES AND TRICKS

A METHOD OF RECORDING STRING FIGURES AND TRICKS.*

Making String Figures is so widespread an amusement that it deserves special attention. Not only should the method be recorded, but the name of each figure and its alleged meaning as well as any songs and stories associated with it.

The term "*string figures*" is employed in those cases in which it is intended to represent certain objects or operations. The "cat's cradle" of our childhood belongs to this category. "*Tricks*" are generally knots or complicated arrangements of the string which run out freely when pulled. Sometimes it is difficult to decide which name should be applied.

Terminology.—A string passed over a digit is termed a *loop*. A loop consists of two strings. Anatomically, anything on the thumb aspect of the hand is termed *radial*, and anything on the little-finger side is called *ulnar*, thus every loop is composed of a *radial string* and an *ulnar string*. By employing the terms thumb, index, middle-finger, ring-finger, little-finger, and right and left, it is possible to designate any one of the twenty strings that may extend between the two hands.

A string lying across the front of the hand is a *palmar string*, and one lying across the back of the hand is a *dorsal string*. Sometimes there are two loops on a digit, one of which is nearer the finger-tip than the other. Anatomically, that which is nearer to the point of attachment is *proximal*, that which is nearer the free end is *distal*. Thus, of two loops on a digit, the one which is nearer the hand is the *proximal loop*, that which is nearer the tip of the digit is the *distal loop*; similarly we can speak of a *proximal string* and a *distal string*.

In all cases various parts of the string figures are transferred from one digit or set of digits to another or others. This is done by inserting a digit (or digits) into certain loops of the figure and then restoring the digit (or digits) back to its original position, so as to bring with it (or them) one string

* Abridged from an article by W. H. R. Rivers, and A. C. Haddon in *Man*, 1902, 109.

or both strings of the loop. This operation will be described as follows: "Pass the digit into such and such a loop, take up such and such a string, and return." In rare cases a string is taken up between thumb and index. A digit may be inserted into a loop from the proximal or distal side, and in passing to a given loop the digit may pass to the distal or proximal side of other loops. We use these expressions as a general rule instead of "over" and "under," "above," and "below," because the applicability of the latter terms depends on the way in which the figures are held. If the figures are held horizontally, "over" and "above" will correspond as a general rule to the distal side, while "under" and "below" will correspond to the proximal side.

A given string may be taken up by a digit so that it lies on the front or palmar aspect of the finger, or so that it lies on the back or dorsal aspect. In nearly all cases it will be found that when a string is taken up by inserting the digit into the distal side of a loop, the string will have been taken up by the palmar aspect and *vice versa*. Other operations involved are those of transferring strings from one digit to another, and dropping the strings from a given digit or digits.

The *manipulation* consists of a series of movements, after each of which the figure should be extended by drawing the hands apart and separating the fingers; unless this would interfere with the formation of the figure, in which case a note should be made that the figure is not to be extended.

There are certain opening positions and movements which are common to many figures. To save trouble these may receive conventional names; but it is better to repeat descriptions than to run any risk of obscurity.

Position 1.—This name may be applied to the position in which the string is placed on the hands when beginning the great majority of the figures. For example, "Position 1" denotes: Place the string over the thumbs and little fingers of both hands so that on each hand the string passes from the ulnar side of the hand round the back of the little finger, then between the little and ring fingers and across the palm; then between the index and thumb and round the back of the thumb

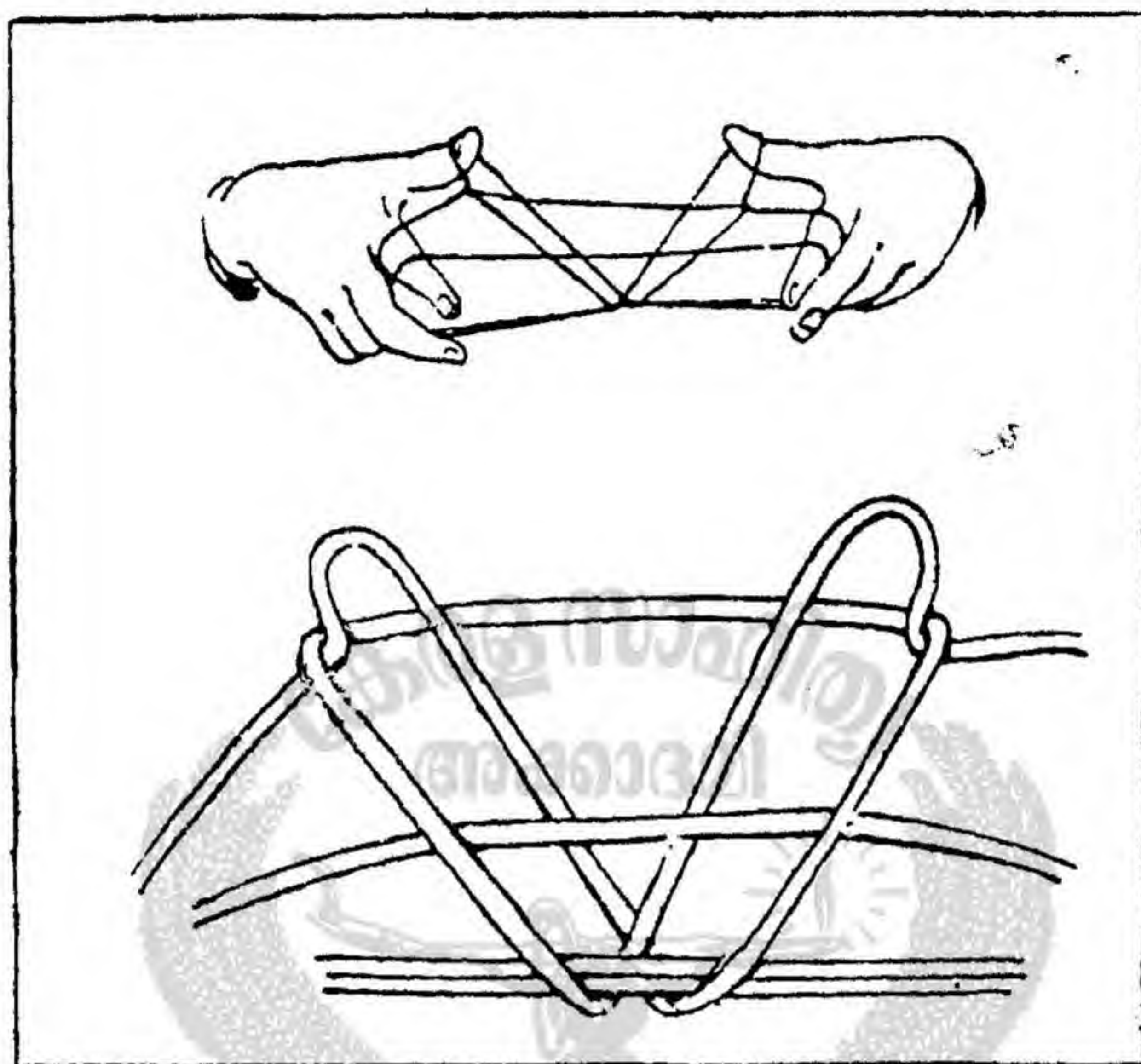
to the radial side of the hand. When the hands are drawn apart the result is a single radial thumb string and a single ulnar little finger string on each hand with a string lying across the palm. This position differs from the opening of the English cat's cradle, in which the string is wound round the hand so that one string lies across the palm and two across the back of the hand with a single radial index string and single ulnar little finger string.

Opening A.—This name may be applied to the manipulation which forms the most frequent starting point of the various figures. For example, Opening A denotes: (1) Place strings on hands in Position 1; (2) with the back of the index of the right hand take up from proximal side (or from below) the left palmar string and return. There will now be a loop on the right index, formed by strings passing from the radial side of the little finger and the ulnar side of the thumb of the left hand, i.e., the radial little finger strings and the ulnar thumb strings respectively; (3) with the back of the index of the left hand take up from the proximal side (or from below) the right palmar string and return, keeping the index with the right index loop all the time so that the strings now joining the loop on the left index lie within the right index loop. The figure now consists of six loops on the thumb, index, and little finger of the two hands. The radial little finger string of each hand crosses in the centre of the figure to form the ulnar index strings of the other hand, and similarly the ulnar thumb string of one hand crosses and becomes the radial index string of the other hand.

Example of a *string figure* from Torres Straits.

Ti meta, "nest the of the *Ti* bird" (Mer); *Gul*, "a canoe" (Mabuiag). Opening A.—Insert each index into the little finger loop from the distal side and pass it on the proximal side of radial little finger string and bring it back to its previous position by passing it between the ulnar thumb string and the radial index string. Let go little fingers. There are now two loops on each index and a large loop passing round both thumbs. Insert the little fingers from

the distal side into the index loops and pull down the two ulnar index strings. Let go both thumbs gently and insert them into the same loop in the opposite direction to which they had been previously (*i.e.*, change the direction of the



thumbs in their loop). With the dorsal aspect of the thumbs take up from the palmar side the strings passing obliquely from the radial side of the index fingers to the ulnar little finger strings and extend the figure. The inverted pyramid in the centre represents the bird's nest.

Example of a *string trick* from Torres Straits.

Kebe makeis "the mouse" (Mer).—Hold left hand with the thumb uppermost and the fingers directed to the front. Put whole left hand through the string, letting the loop fall down its dorsal and palmar aspect from the radial side of the thumb. There will then be a pendant palmar and dorsal string on the left hand. Pass index of right hand beneath the palmar string, and between the thumb and index of the left hand, then pass it round the pendant dorsal string, bringing it between the thumb and index. Give the loop thus made a twist clockwise, and place it over the index of the left hand,

Pull tight the pendant strings. Again pass right index beneath the pendant palmar string and between the index and middle fingers, hook it over the dorsal string as before. Bring it through as before, twist the loop clockwise, and put it over the middle finger. Repeat so as to make similar loops over the ring and little fingers. Pull all the strings tight. Remove the loop from the left thumb, hold it between the left thumb and index. With right hand pull the palmar string, and make a squeaking noise as the loop disappears from the left hand.

STORIES, SAYINGS AND SONGS

Folk-tales or Märchen are told mainly for amusement. There is a vague belief among some people, not very seriously taken, that their recital, which may be accompanied by a ditty, has a beneficial influence on recently planted crops. The actors in folk-tales are usually anonymous, and there is no note of time or place, and usually there is a definite theme and plot. Often such stories are owned by a definite person, and may be recited only by him or by some authorized person. They are often recited only at special times.

In *Beast-tales*, animals speak and act like human beings. Different species often have particular characters. Note all attempts to characterize the animals by intonation or gesture. *Cumulative tales* repeat all their incidents till the climax is reached, as in the "House that Jack built." Some ritual formulae are built up on this plan. *Drolls* are intended to be comic. *Apologues* have a purpose and a moral, and are nearly allied to *Proverbs*, which may be in narrative form: such stories have to be regarded in their local setting, the sociological context, the sociable function, and the cultural rôle of amusing fiction. "He shot at the pigeon and hit the crow."

Another class of stories has no special season. There usually is no fixed method of telling them, the recital has not the character of a performance, nor has it any magico-religious significance. Yet they are more important than the former

class, for they are believed to be true, and the information they contain is both more valuable and more relevant than that of the former class. An old man will tell his varied experiences and may mix with it reminiscences of his father, hearsay tales, and legends which have passed through many generations. Stories of sailors, famous dancers, distant lands, recent and ancient visits to the land of the dead, stories associated with natural phenomena, objects, persons turned into stone, etc. All these historical accounts, legends, hearsay tales imperceptibly shade into each other. *Legends* are traditional and are often told about events or persons who are in fact historical. The same legend is often told of different persons or places in countries far apart. When they are concerned with the doings of a hero, whose existence is taken for granted, they may be distinguished as *Hero-tales*. When a series of legends follows in detail the life and adventures of people it forms a *saga*.

The inquirer should not too hastily conclude that stories of wars, migrations, culture-heroes, and the like, are necessarily fictitious. A story may embody true historical tradition, though parts of it are obviously impossible; in some cases there is every reason to suspect that the story has travelled from afar, perhaps picking up certain elements in its journey, and that, in order to render it acceptable to a given people, local colour has been superimposed. In judging of the age and comparative authenticity of the stories, particular attention should be paid to the channel through which they have been preserved; whether there is any body of men whose duty it is to transmit traditions uncorrupted—though even this does not preclude deliberate alteration of them from motives of piety, vanity, or self-interest—or whether the stories are common talk. The objects of material culture mentioned in such stories may afford some clue as to their accuracy and age. Among people who preserve their genealogies with some care, note whether different informants tell the same story as having happened in the days of ancestors who were probably contemporary with each other, or the same man may be referred to by different peoples; the relative age

of such stories may be roughly estimated by allowing twenty-five years to a generation.

Sacred tales or *myths* play a very important part in the social and magico-religious life of peoples, and they come into play when rite, ceremony, or a social or moral rule demands justification, warrant of antiquity, reality, sanctity. *Myths of origin* cannot be dispassionate history since they are made to fulfil a certain sociological function, to glorify a particular group, or to justify an anomalous status. Myth though retrospective is an ever-present, live actuality; it is neither a fictitious story, nor an account of a dead past, but is alive in that its precedent, its law, its moral, still rule the social life of the natives. In many types of magic there is a story, *myth of magic*, which tells, not of magical origins—but when and where that particular magical formula entered the possession of man, how it became the property of a local group, how it passed from one to another. It justifies the sociological claims of the wielder, shapes the ritual, and vouches for the truth of the belief. Myths of love, of death, stories of the loss of immortality, of the passing of the Golden Age, of the banishment from Paradise, myths of incest and sorcery, play with the very elements which enter into the artistic forms of tragedy, of lyric, and of romantic narrative. Myth, as a statement of primeval reality which still lives in present day life, and as a justification by precedent, supplies a retrospective pattern of moral values, sociological order, and magical belief. It is therefore neither a mere narrative, nor a form of science, nor a branch of art or history, nor an explanatory tale. It fulfils the function of strengthening tradition, which it endows with a greater value and prestige by tracing it back to a higher, better, and more supernatural reality of initial events. Myth is therefore an indispensable ingredient of all cultures.

General Directions.—It is easier to write down a story than to study its function by the observation of the vast social and cultural realities into which it enters. All tales should be written down with as little delay as may be, preferably in the presence of the narrator, if possible, in the native language,

and in any case with the native idioms exactly rendered ; and should be read over to him or her for correction, if possible. The name, age, residence and occupation of the narrator should be recorded ; and it should be stated, whether the narrator is bilingual, and, if possible, where and from whom he heard the story. Variants and fragments of stories should also be recorded ; but they should be kept separate, not pieced together, or used to "correct" other versions. There is sometimes a rhythm in tales, and there are often long "runs" which are repeated ; in transcription these are tedious and apt to be omitted, but they should nevertheless be indicated as they occur ; otherwise the literary structure of the tale is destroyed.

Tales should be listened for when people are talking at leisure among themselves. Myths of a sacred character should only be asked for when the inquirer is on thoroughly confidential terms with his informant ; otherwise, he may be put off with inventions, or feigned ignorance.

Note whether there is a class of *professional story-tellers* ; if so, how are they recruited and rewarded ; whether each has a repertoire of his own ; whether there is any sort of property in stories, whether special or different stories are told by men, women, and children respectively. Are any stories not told before elders, or concealed from women, children, strangers, or members of other social groups ? All occasions should be noted on which special stories are told, and whether for amusement, to point morals, give warnings or examples of conduct, and so forth. Are there story-telling seasons ? Do the people classify stories as "true" and "untrue," "important" and "trivial," or "of the present day," or "of ancient things" ?

Songs.—The place of song in the life of the people should be carefully studied. It may be used as an accompaniment, or as an integral part of magical and religious rites ; in war, dancing, wedding, and funeral ceremonies ; in concerted work such as rowing or hauling ; or in solitary occupations, such as milking, grinding, or spinning. Or it may be used independently, as in love-songs and serenades, or for the pleasure and entertainment

of the company. The words are usually (though not always) intended to be appropriate to the occasion, and may be rather narrative than lyrical, in fact, hero-tales, folk-tales, or in verse. Metrical saga to be sung or intoned is called *epic* poetry.

The words of all songs should, if possible, be taken down exactly, noting the names of the singers. Is there a class of *professional singers*? If so, how are they remunerated? Do they compose their own songs, or sing those of others? Are they retained in the service of the kings or chiefs? Are the subjects of their songs topical or historical? Note the occasions on which songs are sung. Are there competitive prizes for singing, or *singing festivals*? Are songs traditional, or modern, or improvised? Are there burdens, refrains, or choruses? Do they contain any nonsense words, obsolete words, or words and phrases not understood by the singer? Are there any set forms of rules of rhythm and metre? Do men, women, and children sing different songs? Does each singer claim property in his songs? Are songs put into the mouths of the characters in prose-tales? Is song supposed to have an influence over animals or over the elements? The phonograph, p. 311, will be found of value for recording songs.

Proverbs deserve careful study because they represent the actual ideas, modes of thought, and principles of conduct of those who use them. From the proverbs of a nation, we learn how far figure and metaphor enter into their habits of thought, what subjects or details attract their observation; what opinion each community has of another; what qualities are praised or blamed.

Riddles.—In the lower culture, riddles propound real problems for solution, they describe persons or things in a metaphor, and the answer must discover its meaning. Thus riddles are used as a means of education, and even as a serious test of intellectual ability. Hence their prominence in folk-tales.

Having once heard a riddle proposed, you may ask for more, and propose them on similar occasions, asking again for others in return. Proverbs are more difficult to collect.

They must be noted when they occur. Then, proverbs already noted may be made the topic of conversation ; and eventually someone may, perhaps, be induced to collect and supply others. Some people, however, invent proverbs easily ; and no phrase should be accepted as a proverb unless the people themselves recognize it as such.

HISTORY

Besides myths and traditional stories of the kind discussed above many peoples keep regular records or chronicles of current events. If these are written, examples, or at all events transcripts, should be secured, if possible. All such information should be recorded in the actual words of the narrator or chronicler. Sometimes such records are in the form of pictographs, these should be obtained or photographed with the exact significance of each representation. Pictographs may be painted, incised, or carved on various materials or objects. It is important to determine, if possible, whether incised pictographs on rocks have any historical significance. Note whether knowledge of historical events is widespread, or whether there are expert or professional chroniclers, either of public events or of the history of a particular family or other social group. Note also all *monuments* erected, or alleged to have been erected, to commemorate historical events ; with full details and the names of informants ; stones or other objects may be placed on the ground to record the migration of heroes, etc. How are events dated, and their order recorded ? Good tests are furnished by previous visits of Europeans, which can often be dated accurately. If circumstances permit the same story to be transcribed on more than one occasion, even from the same narrator, keep both copies for comparison, to ascertain how far the very form of the narrative is traditional or optional. Even when the story is recognizably of alien or even European origin, it is yet worth while to transcribe it accurately in order to learn what are the precise results of oral transmission. It makes no difference in this respect whether your informant is

aware, or not, that the story is otherwise known ; but if he shows such knowledge, the fact should be noted.

Note what beliefs the people have as to the origin of their own ancestors and social organization, and about the relation in which they stand to other societies or peoples.

Memorial Structures, or Monuments, in the strict sense of the word, are set up by many peoples to record public events or great personages. The principal kinds of monuments are memorial stones, cairns, mounds, figures cut in turf, or on hillsides, or cut or painted on rocks. Is anyone responsible for maintaining a monument ? Describe fully, if occasion offers, all observances when such a monument is made ; by whose authority it is set up, *v.* STONE MONUMENTS AND EARTHWORKS, pp. 364, 368.

WRITING

The expression of ideas by graphic signs has two bearings on anthropology : First, the use of marks, pictures, etc., for record and communication, preserves stages in that course of development which leads through full picture-writing to phonetic and alphabetic writings. Secondly, when an alphabet of any kind is in use, it usually shows resemblances to that of other districts, which suggests that they must all have a common origin ; and it is an essential element in the history of any tribe or nation, to discover from what country it obtained its alphabet. With the alphabet, it is probable that it derived other and not less important parts of its civilization.

Message-sticks, and other unwritten Memoranda.—When it is desired to send a message to a distance, to invite visitors, make an assignation, summon a war-party, propose a bargain, record numbers or prices, or give news, various methods are found in use, apart from writing properly so-called. For example, knots are tied in a string, notches cut on a tally, or marks made on wood, bark, or stone. Symbolic objects (*e.g.*, arrows) may be sent, or things such as fruit and shells, to which a conventional meaning is attached. It is often uncertain how far these devices are of the nature of writing, and capable of being read by anyone who knows the code ; and

how far they are individual inventions to aid the memory of the messenger, who associates them with the items of a verbal message which he has learnt, or even credentials to recommend him. Information on these points is necessary. Are treaties, notable events, or exploits recorded in this way? Is anything like a calendar made? Is the interpretation known generally, or to experts only? How long are such records preserved?

Are any marks, notches, or representations such as are used in message-tokens, found carved on rocks as if made for the purpose of record?

Are pictures or carvings made for the purpose of communication or record, as distinct from mere ornament? If so, does the picture simply indicate an object such as it represents, *i.e.*, is the system one of *picture-writing*? Or is any trace to be found of the picture representing not the object itself but the sound of its name, *i.e.*, is any rudiment of *phonetic writing* noticeable? If pictures or other characters are used for phonetic purposes, what is the system of their use? Is there a system of signs for syllables or letters? Is any mixed system of picture-signs and sound-signs used, as in the Egyptian hieroglyphics? How are *numerals* represented? Have any of those signs which are used for sounds a numerical value? Is the *syllabary* or *alphabet* apparently of pure native invention, or suggested by some civilized alphabet? or directly borrowed from some other country? Is there any record of the time and circumstances under which a foreign alphabet was introduced? Is *printing* of any kind from stamps, blocks, or types in use? Give drawings of *owner's marks* upon arrows, weapons, tools, etc., and other property; and of mason's marks, cattle-brands, ciphers, and secret signs.

RECKONING AND MEASUREMENT

Methods of counting and reckoning are best studied by recording actual instances as they occur, and postponing the attempt to interpret them until a considerable body of evidence has been collected.

Modes of Reckoning.—Many people reckon by simply grouping the objects to be counted ; and display little interest in accuracy, at all events where the numbers are large. When the question of number is complicated by that of value, as in all forms of exchange, the procedure may be difficult either for Europeans to follow, or for the people themselves to explain. Note therefore all words for numerals, including compound numerals such as “ five-two ” for seven ; for numerical order (“ first,” “ second,” “ third,” etc.) ; for arithmetical processes, and also all words and phrases for particular groups of objects, such as “ handful,” “ dozen,” “ score,” ; all gestures and other unspoken aids to reckoning, and all written *figures* for numerals and values. Some of these explain themselves, such as the outspread fingers for five, the word “ man ” for twenty. Of large numbers, note whether they are used precisely, or to express mere multitude. Of all descriptive numerals and processes, record the people’s own opinions as to their meaning, and how it arose. Note in what order the fingers and toes, or other parts of the body, are counted, and whether these are true numerals or merely a tally. If any kind of counters, counting-boards, or tallies are in use, obtain specimens, and learn how to use them yourself. Note what kinds of reckoning are performed mentally, and supplement your observations by setting simple arithmetical problems.

Measures and Weights are means for comparing the size and weight of an object with accepted and accessible standards. Such *measures* and *weights* are often natural objects of uniform size or gravity, or parts of the human body, or customary kinds of effort (such as lifting or pacing). Other standards are derived from the amount of gold, or other heavy commodity which is equivalent in value to an accepted unit of barter, such as an ox or a slave. (*v. Medium of Exchange*, p. 139.) Multiples and mutual relations result partly from the system of numeration, partly from experience of the number of times that one standard or unit is measured by another. Sometimes the same seeds, pebbles or other objects, are used both as *counters* and as *weights*.

Measures of Distance commonly employed are the breadth or length of finger or thumb, or palm, or hand, or foot, or fingernail; or the span either from thumb to little finger-tip, or to forefinger tip; or from top of middle finger to elbow (*cubit, ell*); or over outstretched arms from finger tip to finger tip (*fathom*); or various kinds of *pace*; or the length of a spear, or other implement, or customary lengths of cord or chain; or spear-cast, bow-shot, day's-journey.

Measures of Surface are expressed in terms of such units as the area of an ox-hide, or mat, or cloak; or of the day's ploughing of a yoke of oxen, or of the land which can be sown with a given measure of seed. Note the shape of the land unit; in particular whether the length and breadth are the same or different; and, if different, what the two dimensions are, and what account the people give of each of them. Are there larger and smaller measures of land? How is land measurement actually performed? How are the areas calculated and boundaries adjusted?

Measures of Capacity include the hollow of the hand, the handful, or armful, the load of a man, or beast, or wagon or boat; the content of an egg, gourd, or other natural object; or of some manufactured object in common use, like a basket. Note all measures used specially for corn, wine, or any other commodity.

Measures of Weight are often seeds of plants; and for larger quantities the customary load of a man or beast or wagon. What measures, if any, are reserved for particular commodities? Obtain examples of apparatus for weighing. Sometimes a standard of weight is formed by a measure of capacity filled with a particular commodity, such as water or corn.

Measures of Time are commonly derived either from some kind of human endurance, or (for larger periods) from the apparent movements of sun, moon, and stars. Note what subdivisions of the day are in use, and how they are estimated; is there a standard subdivision irrespective of the seasons, or are the *hours* longer or shorter according to the seasonal daylight. How is the night-time measured? Are any instru-

ments such as *sun-dials*, *water-clocks*, *sand-glasses*, used to measure time. Are any time-tables or calendars in use? If so, what account do the people give of their origin? Obtain specimens of all such devices, and learn to set and use them yourself, *v. SEASONS, CALENDAR AND WEATHER*, p. 338.

Measures of Value are dealt with in the sections *Medium of Exchange and Money*, p. 139.

General Questions.—Note, in all cases, what degree of accuracy is observed by the people themselves; whether artificial standards of length, capacity or weight are in use; whether such standards agree together? what is thought of persons who use inaccurate measures or weights? whether any authority is responsible for testing measures and weights, or generally maintaining standards. Record all multiples, customary “tables” of comparing larger and smaller measures and weights.



NATURE-LORE

All peoples have some store of knowledge about the course of nature and the habits of other creatures, and sometimes this knowledge based on observation is distinct and accurate. But often it is affected by traditional beliefs, or systems of classification often resembling the social organization of the people (*q.v.*), or opinions as to causes and effects, and as to various kinds of goodness or badness, usually in relation to man. Only the principal subjects of such nature-study are summarized here.

SEASONS, CALENDAR, AND WEATHER

Even among very backward peoples an estimation of time may be necessary if only in order to know when to assemble for certain occasions. In this case the day is the unit, and a tally is made to tick off the requisite number of days ; all such should be described. Should it be necessary to make an appointment at a particular time during daylight, an indication may be made where the sun will then be in the sky. The moon is the next natural divisor of time and the fitting-in of days gives rise to the week, the number of days of which varies in different countries, but weeks are not estimated by the most backward peoples. The solar year as such is not recognized by most primitive peoples, but when it is recognized and careful observations made, the difference between the lunar and solar year becomes apparent, and, when the people are sufficiently skilled, an adjustment is made between the lunar and solar year. All methods of measuring or indicating time should be described, whether these be the simple observation of natural phenomena (*e.g.*, the withering of leaves), or human or animal actions, or by use of apparatus specially made, however primitive. The seasons, independently of

days or moons, constitute a practically universal method of rough and ready time-reckoning. The particular seasons vary according to geographical and climatic conditions, all of which deserve the consideration of the investigator, the extent of the hot and cold, dry and wet seasons exercise a profound effect on native life. Speaking in general terms natives recognize a few main seasons to which names are given which often have reference to the state of the crops or plants, seasonal movements or habits of animals, and the like. These may be similarly subdivided. In regions where there are winds with periodic alterations (monsoons) the direction of the wind at a particular time may give its name to the season, or at least is strongly associated in the native mind with the vegetation season, as perhaps are also particular kinds of weather.

It is highly important for horticultural people to know when to expect the advent of certain seasons and the only available method of doing so is to note the sidereal clock. The annual progression of stars is recognized by most people, who give names to the most prominent stars and to the constellations as they see them. It is usually regarded as the function of definite stars and constellations to mark the onset of the seasons, the appropriate time for planting new crops, and the proper time for holding certain ceremonies. This seems usually to be determined when the star or constellation in question just appears or disappears on the horizon at daybreak. All information concerning the foregoing should be very carefully recorded, and whose duty it is to make the astronomical observations and whether this office and knowledge is inherited.

By what signs is the *weather* foretold? Are they in fact trustworthy, in your own experience, or that of European residents? Are all people weather-wise, or is this skill confined to a few, or to a class? Do the people go out in all weathers? Do their habits vary in any way according to the season? Note all tales, myths, beliefs, and opinions about clouds, rain, hail, thunder and lightning, and other meteorological occurrences.

STAR-LORE

Obtain the ideas of the people about the *sun* and *moon*. The following points may be especially noted:—the supposed causes of the rising and setting of the sun and of the phases of the moon; the sex of these bodies and their relation to one another; the place of the moon in ritual; rites or observances at the times of new or full moon; the different position of the sun at rising and setting, at different times of the year and whether these are recognized to coincide with prominent features on the horizon (mountain-tops, gaps, etc.); *eclipses* and any observances when they occur.

Obtain the names of *stars* and *constellations*, and ascertain if stars are distinguished from *planets*. How are shooting stars regarded? It often happens that the people group the stars in definite constellations which differ entirely from those of civilized peoples. It follows that you should never ask simply for the name of one of our constellations, but the people should be asked to point out the stars which they group together, and these stars should then be identified. For this purpose a small star-globe* is far more convenient than star-maps. Ascertain if the time for ceremonies, planting crops or other operations is regulated by the rising or setting of stars or constellations, or if the stars are important in *navigation*. In such cases, ascertain exactly what is meant when it is said that a ceremony is performed when a star "rises" or "sets," or that the people steer by certain stars. For example: Does the star "rise" immediately after sunset, or before sunrise? Who makes these observations? Ascertain if certain stars or constellations are regarded as the property of individual persons or of social groups, and inquire into any relations supposed to exist between sun, moon, or stars, and objects on the earth. Native drawings should be obtained of the constellations as seen by the people, and any tales connected with them recorded.

* A *Popular Celestial Globe* is sold by G. Philip and Son, 32 Fleet Street, London, E.C., price 5s. 6d. net.

GEOGRAPHY AND TOPOGRAPHY

Note all native methods of describing the relative positions of places ; all maps or substitutes for maps, such as objects laid out to represent places. Route maps or travellers' guides are sometimes made by marks on a string or rod, indicating the sequence of landmarks (*v.* TRAVEL AND TRANSPORT, p. 276). Are there any representations of local topography ? Get the natives to make drawings for you of geographical features and of districts known to them. Record all native phrases for the points of the compass, of the sky, prevailing winds, and other marks of direction ; for the natural features of the country ; for different kinds of hills ; valleys, water-courses, and so forth ; for different regions, or types of soil or vegetation. If a name is not descriptive, note all native explanations of it. Are any landmarks of peculiar formation specially associated with mythological persons, or regarded as sacred, inhabited by spirits, and so on ? What is known about the sea, its saltness, tides, and currents ; rise and fall of lake-levels, river floods, and other water-lore ? Note all place-names, and their meaning, if this is known to the people themselves.

PLANT-LORE*

The observer's object is not to give an exhaustive account of the flora of the country, but to record the people's own knowledge and use of plants. What are their ideas of plant life ? What is the effect of the plant environment on their life and thought ? What use do they make of the plants about them for food, medicine, industry (timber, fibre, textiles, dyes, etc., pleasure, fine art, and ritual ? (*v.* RELIGION AND MAGIC, p. 184). What is the extent of their knowledge of the parts, functions and activities of plants ? Do they, for instance, relate the fertilization, germination, and growth of plants to the corresponding phases of animal and human life ? Into what

*Abridged and adapted from Harrington, Robbins and Freire-Marreco, Ethnobotany of the Tewa Indians, *Bulletin* 55 (1916), Bureau of American Ethnology.

categories are plant names, and words dealing with plants, grouped in their language? Do they generalize, and classify? and on what principles? It has sometimes been reported that uncivilized people have names for every kind of local tree but no word for "tree"; it has also been asserted that their interest and recognition are limited to plants of which they make use; both assertions need testing. While the native vocabulary may be taken as a rough indication of the people's ideas on such subjects, it must be remembered that, like ourselves, they may draw more distinctions in thought and in practice than are expressed in their language.

Instances of wild plants being brought under cultivation, or of the adoption of foreign plants, should be noted.

Information should be sought from the older men and women; and it has been found advantageous to take two or three such informants on a plant-collecting expedition; they discuss the points raised among themselves, interest is better kept up, and valuable facts are brought out. The results should be checked with other individuals and groups, and the information from different informants marked as such in the notes; for plant-lore is largely proprietary, and plants of no interest to one man may be given as powerful medicines by another. Doctors (male and female), magicians, and craftsmen will obviously have special interests.

It is essential that the observer should go into the field with his informants, so that they may give their information on the growing plant as they are accustomed to see and know it, or to gather it for use. Plants removed from the places in which they grow tend to confuse the informant and may be wrongly identified. Plants which the informants select as interesting may be studied first; then they should be shown other growing plants, the smaller as well as the larger and more conspicuous forms, and questioned fully about each. It is well not to hasten from plant to plant but to give the informants time to think over and discuss points among themselves.

Questions should bring out the following points: Native name; supposed meaning of name; descriptive terms applied to shapes of leaves, kind of stem, roughness or smoothness,

etc. ; native ideas of the use of the various structures to the plant itself ; native observations on habitat, soil, conditions, and plant-associations ; uses of various parts and methods of preparing them for use ; any social, mythical, or ceremonial associations.

The large and more important plants may usefully be photographed, and drawings may be used to supplement photographs. Further, native representations of plants can often be obtained, notably in the form of designs on pottery, baskets, and textiles. An attempt should be made to identify these, as indicating native conceptions of plant life. Drawings of plants, flowers, etc., by natives on paper supplied by the investigator should also be obtained.

The collector who is not himself a botanist should take pains to collect large specimens with all the parts present, in order that the botanist to whom they are sent may readily identify them. A portable plant press will be needed, with a supply of sheets of thin, cheap paper (newspaper will do) cut to the size of the press, to separate the plants as collected. It is highly desirable to have about 200 botanical "driers" ; these are of soft, felt-like material and very durable. The specimens, of which there should be two of each plant, including, if possible, the underground parts, stems, leaves, flowers and fruit, are laid between papers in the press as they are gathered. They should be given numbers referring to data in the notebook, or the relevant data should be included with each specimen. Besides the native information obtained, each should be marked with locality, and date of collection, and collector's name. The specimens brought from the field are immediately transferred to "driers" ; if not pressed while fresh, they will lose their colour and go mouldy. Each plant is laid between two papers and two or more driers. The stack of plants, papers and driers is weighted with a heavy stone and kept in a dry place. Driers should be changed every twenty-four hours at least, and the wet driers left in a sunny place.

A pamphlet entitled "Hints for Collectors" can be obtained at the Royal Botanic Gardens, Kew, and will be found very useful.

Portable Plant Presses, Pads, or Driers, etc., may be obtained from Messrs. Watkins and Doncaster, 36 Strand, London, W.C.1.

ANIMAL-LORE

Animals must here be taken to include the whole animal kingdom. The object of the inquiry is to ascertain not only the amount of actual knowledge of the nature and habits of animals possessed by the natives, but also their conception of the place of the animal kingdom in the scheme of the universe. Hunters, fishermen, and herdsman will naturally be the chief classes of informants. Record all observed peculiarities of form, colour, or habits of the various species which throw light on the ideas entertained about them.

Enumerate, giving local name, the animals which are of economic importance or are of other value or interest to the natives, and inquire whether any are known or believed to be introduced. How are the habits of migratory species accounted for? Note all native ideas about animals, whether rational observations or marvellous stories; or stories about animals which either are not believed to exist now, or are not of any species which can be observed in nature (*v.* STORIES, p. 327). Are any animals or species supposed to understand human speech, to be pleased or offended by remarks heard, laughter, or certain actions; to have foreknowledge of events or of the weather, to perceive the presence of spirits; to be able to transform themselves into human or other shapes, or otherwise to have human or superhuman powers? Sometimes a special hunting language is used; this should be recorded and its alleged object obtained. Note all species associated with witchcraft, and all observances. Sometimes the natives exhibit awe towards animals, as distinct from physical fear, or make offerings to animals. Note also all restrictions on the use of the names of animals, either generally or at certain times, or by certain persons. Some persons are popularly believed to have special powers over wild animals, to understand their language, to be able to transform themselves into animal shapes. How are such powers believed to be acquired?

Note the occurrence of domesticated or semi-domesticated animals; how are they treated or housed, and by whom are

they tended ? (*v.* DOMESTICATION OF ANIMALS, p. 221.) Are the ears or tails of animals cropped ? or are they otherwise marked or branded ? Are any animals kept as pets, or in confinement, in sacred places, or otherwise ? To whom do they belong ? Note whether they take any part in the life of a family or village, sharing festival food, being informed of domestic events, and so forth.

For other beliefs and practices in which animals or parts of animals are concerned, *v.* FOOD, p. 211 ; *Medicines*, p. 347, TOTEMISM, p. 76, and DECORATIVE ART, p. 288.

NATURAL HISTORY OF MAN

Note all observations made by the people themselves about the colour, stature, odour, and other physical qualities of one another or of neighbouring tribes, or of Europeans and other strangers ; and all current explanations of them. A preliminary conversation on this subject may sometimes lead to an opportunity for regular measurements and other anthropometric observations.

MEDICINE

Even without special training it is possible to make useful records concerning the art and practice of medicine among natives, such as the names of diseases, ideas as to their origin, prevention, and treatment. Much of the treatment may be magico-religious, on the other hand many remedies have proved curative by experience. Collect samples of drugs, poisons, etc., the plants, etc., from which they are made, for identification, with names and methods of preparation, medical and surgical equipment with exact details as to their use, including examples of " medicine," talismans, amulets, used as protection for the pregnant woman, the new-born babe, the hunter, the warrior, the traveller, etc., against disease, accident, snake-bite, sunstroke, injury in war, magic, and other evils. Also record any rites practised in the same connection, and the ideas in regard to these practices.

Note the persons who undertake the treatment of the sick and injured, whether they are professional healers, whether they profess or are believed to cure all diseases, or specialize on particular cases, *i.e.*, chest diseases, snake-bite, poisoning, fractures, whether they also practise magic or perform religious functions. How are they maintained or rewarded? How is payment made, at what rate and when? In the case of non-success, is there any rebate? Is there any redress for malpraxis? How does the "doctor" come by his knowledge or skill? Is knowledge handed down in the family? Does he undergo any apprenticeship?

Make a list of all diseases and injuries; distinguish between the name of a definite disease entity, and the name of a prominent symptom, or the name of the part affected, thus between "consumption," "cough," and "chest trouble." Note whether disease is of recent introduction, and history of introduction into the country. Describe symptoms, etc., of each disease or injury with native words as given by a patient and by "the doctor" separately, together with ideas as to the causation and the treatment given.

Are any of the following methods employed: bathing, application of heat (air, steam, water, oil, salt, etc.), or cold; fumigation; disinfection; cupping; bleeding; leeching; counter irritation by blisters, "firing," etc.; production of passive congestion by application of tourniquet; relief of pain by massage, kneading, pressure ligatures, etc.? Are any reliable emetics, purgatives, abortifacients, or anthelmintics to expel worms, known? Are any drugs administered as enemata or by the vagina, into the ears, nose or eyes? Are any votive offerings made after recovery from illness? Is there belief in the "healing touch"? Are pilgrimages made to shrines or other sacred places for the healing of the sick? Are any particular articles believed to have healing powers? How are deformity, albinism, idiocy and insanity, and the like regarded and treated?

Record beliefs as to the origin and causes of disease. Are any diseases attributed to sexual intercourse with strangers, or intercourse during the menstrual period, or at any other special epoch?

Medicines.—The origin of each drug should be noted ; its collection, preparation, qualities, mode of administration and effects, with all beliefs, and observances connected with its use. Many of the substances—animal, vegetable and mineral—used by uncivilized peoples as medicines and poisons, are known to have no medicinal properties in our sense of the word. Such substances should be collected, nevertheless, with as full description as possible of the mode in which they are prepared and administered, and of their supposed effect, and of all religious or magical rites connected with their use. For example, “poisoned” weapons are sometimes so called not because any poisonous substance has been applied to them, but on account of a deadly efficacy supposed to be given to them by magical means.

Poisons.—What poisons are known ? Their source and origin ? Are they employed in hunting, or fishing, or in war ? Are wells poisoned ? Is poison applied to weapons ? Describe the material, mode of preparation, application, and effect. Describe any cases of “poisoned” wounds which come under your notice. What treatment is applied for accidental poisoning ? Is poisoning a common crime ? under what circumstances ? Are poisons employed by sorcerers ? in ordeals, or as a method of execution ?

Obtain specimens of native drugs, vegetable, animal, or mineral. If of vegetable origin, the flowers or inflorescence, fruits, seeds, leaves, etc., should be obtained for identification. Stems bearing ripe seeds should, if possible, be taken from the same plant. Other specimens in the original state should be packed in air-tight receptacles. Herbarium specimens should be brushed with a solution of corrosive sublimate (four grains to the ounce of methylated spirit) ; fleshy fruits may be preserved in formalin. Sufficient material should be collected if it is to be investigated chemically.

Is the accumulated juice in a tobacco-pipe collected and preserved for sipping ? If so, are the pipes specially constructed to this end ?

Surgery.—On the surgical side what methods are employed to stop bleeding (mechanical, ligature pressure, chemical) ; to

ensure rest of injured part, to maintain position of a fractured bone (splints), to reduce dislocation, to repair wounds ; how and what dressings are applied ; are ligatures and sutures employed, of what made ?

Is removal of tissue by operation practised ; amputation of digit or limb ; or eye ; removal of cataract ; extraction of tooth ; trephining of the skull ; puncture or incision of abscess ? What treatment is adopted for mortification, burns, snake-bite, arrow and spear-wounds, ulcers, etc. ?

Are the following practised : cauterization by heat, manipulation and massage ? Are any means employed to produce general or local anaesthesia ?

Midwifery.—If possible a detailed description of a confinement should be given. Who are informed of the expected confinement. Where does labour take place, in the woman's house, some special hut, or in the bush ; what clothes does the woman wear and upon what does she recline ; who conducts the labour or acts as midwife, are other persons present, and is the assistance of any other person sought under special circumstances ; is midwifery practised as a profession, does the practice remain in a family, what remuneration is given ? What postures are adopted during the several stages of labour, what form of manual or mechanical assistance rendered during normal, abnormal or protracted labour, what other aids invoked before, during and after confinement—medicine, magic, incantation, etc. ?

Does the husband perform any duty, rite or ceremony during the confinement of his wife ? Who receives the baby at birth ? What rites are performed for the child ? Is the umbilical cord severed at birth, before, or after the delivery of the afterbirth, if divided, are ligatures applied ? how and of what are they made ? How are the cord and afterbirth treated and disposed of ? are there any customs, beliefs, and taboos in regard to pregnancy, childbirth, the new-born babe, the afterbirth ? How long does the woman rest after labour ? how long confined to one place and where ? who are allowed to see her and the infant ? At what date and who are allowed to handle the child ? When may the husband appear ?

When is sexual intercourse resumed ? When is the child put to the breast ? for how long is it suckled, what is the custom as regards feeding from each breast ? How is the infant held for feeding, how disposed of at other times ? When washed, how clothed ? How is the fontanel or soft area at the top of the skull treated ? Are children ever killed at birth, if so, how and why ? Is one sex killed in preference to the other ? Are miscarriages common, how are they and still-births accounted for ? How is the body of such a child disposed of ? Note any customs or beliefs about twins, and if both are killed, or if only one, what determines the choice ?

Is there a heavy mortality amongst the mothers and children at birth ? Is there a heavy infant mortality ? What is the average number of children, and the proportion of the sexes born to a woman ? How many survive to adolescence ? (*v. Vital Statistics*, p. 62). These data are best obtained by the GENEALOGICAL METHOD, p. 44. Is sterility common among women, are there any supposed cures for barrenness ?

SANITATION.

Hygiene.—Are there any general rules of health in regard to : (1) preparation of food, (2) collection and storage of water, (3) bodily cleanliness, (4) disposal of refuse and sewage, (5) insect prevention, (6) prevention of epidemic and communicable disease ?

Under (1) include any custom or taboos in regard to menstruation ; under (2) remark the use of copper vessels, small amounts of copper in solution will kill the organism of cholera ; (3) habits as regards washing, shaving the head and pubes to get rid of lice, etc. ; (4) exact notes as to habits in regard to defecation and urination are important, also in regard to disposal of house refuse ; under (5) mention any special measures adopted against flies, mosquitoes, midges, fleas, bugs, lice, itch, jiggers, ticks, the floor maggot, etc., all associated with disease. Are there any customs which obviously have for their object the sanitary welfare of the community without being so recognized ?

(6) Are there any methods adopted for combatting epidemics

and other communicable diseases, segregation of the sick, excommunication of lepers, inoculation for smallpox, etc.? Is disinfection by washing or by fumigation practised? Describe all rites and practices in connection with small-pox, leprosy, etc.

LANGUAGE

EXPRESSION OF THE EMOTIONS

Emotions and kindred mental states, broadly designated as "feelings," are expressed by various movements of the head, face, eyes, larynx, trunk, and limbs, also by changes in respiration, in blood-circulation, in glandular secretion, etc. If the skin becomes flushed or pallid, the extent of the skin area affected should be recorded.

All these possible changes should be carefully looked for and noted as they occur. General remarks on expression are of comparatively little value. What is required is a definite description of the expression of a specific "feeling," or emotion, with a precise statement of the circumstances in which it occurred. As an aid to such observations a "snapshot" camera will be found invaluable.

Modes of expressing *affirmation* and *negation*, doubt, obstinacy, boredom, concentration, disappointment, astonishment, and the like should be described. For example, astonishment may be expressed by the eyes and mouth being widely opened and the eyebrows raised. The open hands may be raised high, with the fingers widely separated and the palms directed towards the person or object causing the astonishment; or the open mouth may be covered by the hand; or the teeth may be flicked with the thumb.

GESTURE, SIGN-LANGUAGE, AND SIGNALS

Gesture is largely used by uncivilized peoples as a means of expression, especially where verbal communication is imperfect, as between persons of different speech. Note all significant gestures of the head, hands, arms, or body, narrating

the actual incidents in which they were observed ; for example, gestures expressing assent, denial, invitation, repulsion, anger, grief, shame, entreaty, prayer, command, blessing, cursing. How do people point to objects, near and distant ? How do they beckon ? How do they count, or indicate numbers ? How do they express the comparative and the superlative ? Do the gestures of men and women differ ? What gestures are resented as insulting ? (v. ATTITUDES, p. 11). Gesture is also a means of artistic and emotional expression, closely connected with Dancing. Note any descriptive, symbolical, or æsthetic use of gesture or posture ; any performances in dumb show (v. DANCING and DRAMA, pp. 318, 320). Note what signs are depicted in pictorial art.

Sign-language.—The use of gesture is sometimes developed into a sign-language, more or less systematic, in which objects and ideas are represented by postures and movements of the hands, arms, head, and body, imitating the most conspicuous outlines of an object or the most striking features of an action. These signs may be abbreviated or conventionalized in use, or to make them more intelligible at a distance.

Careful inquiry should be made to discover the existence of such a system ; where it is not in general use it is sometimes preserved in the memory of old people, or guarded as a secret art. In each system note what sort of ideas can be expressed by signs. Give a full vocabulary, if possible ; if not, typical examples.

Can connected narratives, or speeches be expressed ? Are there signs for “ beginning ” and “ ending ” a message ? to indicate a question ? or otherwise to qualify or explain any sign or group of signs ? How do they express “ yes ” and “ no,” “ good ” and “ bad ” ? Are any signs abbreviated or conventionalized ? Are two or more signs combined to express one idea ? Are the signs used as an accompaniment to spoken language ? Are they used in hunting, war, bargaining ? Is the sign-language deliberately taught ? Do women and children use it ? Is it kept secret ? Are some persons specially proficient ? Is it used between people who speak the same language, or chiefly for communication with

foreigners? In what tribes, and over what area, would these particular signs be understood? Are new signs often invented and adopted? Is the sign-language used in any religious or ceremonial connection? Are there legends about it? Are the pantomimic performances for amusement? Is there any artificial system, like the finger-alphabet taught to European deaf mutes, or the Morse code?

Give written descriptions of the signs, illustrated by rough drawings; the names and ages of the speakers, and the locality should be added. Record, if possible, connected speeches or narratives, and phrases, which will show the order in which the signs are performed and reveal the syntax of the gesture-language; also all variations of manner or speed, with the peoples' own account of their significance. Native explanations of the old signs are most valuable, and should be given in inverted commas, with the informant's name.

Significant gestures and sign-language may be recorded in simple sketches. Time and trouble will be saved by preparing a number of front and side-view outlines of a man on cards or slips. Dotted lines may be used to indicate movements to place the hand and arm in position to begin the sign and not forming part of it. Short dashes to indicate the course of a rapid movement; longer dashes to indicate a less rapid movement; broken lines to indicate slow movement. > Indicates the beginning of a movement. X Represents the end of a movement. © Indicates the point in the gesture line at which the position of the hand or finger is changed. The use of the kinematograph, p. 379, affords a far more reliable record than the above.

Signalling.—Native methods of conveying information at a distance should be described, noting carefully whether the interpretation depends (a) on a code of signals generally known, or (b) on individual judgment, or (c) on a code prearranged for the occasion.

The methods named below are well known, but are summarized here to suggest occasions and actions of which the

significance should be ascertained. No doubt others will be discovered.

Signals and messages are sent (1) by gestures of the arms or body ; (2) by waving something held in the hand, *e.g.*, a flag, blanket, green branch, torch, or by throwing dust in the air ; (3) by running or riding to-and-fro, or in circles, at various paces ; (4) by signal-fires or smoke ; the number and position of the fires and the amount of smoke may be significant ; separate puffs of smoke are produced by raising and lowering a hide or a wet-blanket over the fire. Fires are generally "attention-signals," meant to invite a visit, announce the return of friends, or give warning of a marauding party ; they may be distinguished from casual fires by their sudden disappearance : (5) by flashing a mirror, shooting fire-arrows, or striking sparks from flint and steel ; (6) by "blazing" trees, tying leaves and grass, arranging stones, sticking branches in the ground. Such devices are used both to convey information and also to mark boundaries, or to warn off trespassers. Observe them, therefore, with especial care, and inquire about them at once ; ignorance of their meaning has sometimes led to disaster : (7) by marking pictures or conventional signs on the ground, on rocks, on the bark of trees, or on pieces of hide. These marks show where a party has gone, what it has done, and whether its intentions are friendly or warlike (*v.* WRITING, p. 333) ; (8) by shouting in a particular manner, whistling, blowing horns, or trumpets ; (9) by sounding drums or gongs, or beating a tree, a canoe, or a shield. In some places a "drum" (or "gong") "language" is known to be highly developed, all details should be very carefully noted. The best method of recording sound signals is afforded by the phonograph, p. 311.

SPOKEN LANGUAGE

The science of comparative philology, etymology and that of meaning are beyond the scope of this book. Nor is this the place to discuss the great advantage of a thorough knowledge of a language for anthropological work. There are, however,

still many spoken languages of which we have no written record, and it is proposed to give here some practical hints towards recording these unwritten tongues, and of the type of material which will be found useful to the philologist.

It is certain that for a language which has remained unrecorded until the present time, interpretation will be difficult or wholly absent. It may be difficult because the only language common to the investigator and the interpreter is imperfectly known by either or both parties, or there may be no common language and two interpreters may be necessary; thus there may be two sources of error between the investigator and his informant. Or the only bi-lingual person may be of slight intelligence or out of touch with his own people, or there may even be no person who is bi-lingual. Even in such circumstances reliable linguistic information may be obtained in a short space of time given sufficient patience, and a sound method.

First a considerable number of objects can be named, which can be touched or pointed to: these will be parts of the body, objects of domestic use, parts of the house, natural objects, etc. At first it may be difficult to know whether one has been told a general word, such as tree or wood, or the particular kind that happens to be present. Ambiguity may result in touching, for example, a hand; the informant may give the word for "hand," or that for "skin," or possibly for "blood-vessel"; but mistakes of this kind are easily remedied.

Always take down the word that has been given, and afterwards test for meaning by pointing to different varieties of the same material. Numerals may be obtained by counting pebbles or sticks. Then plurals may be obtained by using the numerals before the nouns already given, thus it can be discovered whether there is a dual number or not, and whether there is a regular plural formation or many different types of plural for different words. Adjectives may be obtained by contrasting objects of the same kind, such as large and small, light and heavy, new and old, long and short, full and empty, etc., these qualities should be applied to the objects already named both in the singular and plural, and the agreement

will be seen. The words for colours can be ascertained by showing coloured papers or wools. Short sentences can be obtained, using the objects already named, and changing the sentence so as to put the same words in the plural into different cases, also prepositions can be introduced. The phrases must always be demonstrated with action thus :—

The leaves are in the pot.

The pot is upon the leaves.

The small pot is upon the big pot.

I put the big pot outside the house, I put the small pots inside the house.

I pour water into the big pot, I put stones into the small pot.
I break a stick.

Such a sentence as the last can be run through all the persons in collaboration with the informants. One can hand a stick to an informant, and intimate to him to repeat what he is doing when he breaks it. Simple actions such as standing, sitting, clapping hands, and eating may be performed with the informants. Care must be taken to distinguish between the first and second persons, and all sentences must be tested. Should one merely say to a man: "I sit down," he will generally answer in his own language, "You sit down"—should one then say to him, "You sit down," he will usually answer, "I sit down."

The past tense may be obtained by arranging the material, sticks, pebbles, leaves, or pots, then asking one informant to leave the hut and rearranging the material—breaking a stick, putting the leaves or pebbles into a pot, pouring water into it or some such thing—and when the informant enters he should be asked what has been done. Then with him still present, making some arrangement for a slight pause in time, so that he will understand that the present is not still required, the other person can be run through, and in like manner the imperative and negative forms. Other tenses will be more difficult and should await greater familiarity with the language. The possessive should be obtained in conjunction with some object belonging to the informant and others belonging to the investigator. Sentences must also be devised in order

to detect gender, and the possibility of its agreement. By using nouns already known and changing the verbs, holding your meetings sometimes indoor and sometimes out of doors, so as to increase the amount of available material, a good skeleton of vocabulary and linguistic structure will be obtained in a surprisingly short time, and if a few definite rules be attended to the material collected will, in the main, be accurate :—

(1) If the interpreter is not a native of the place or has been away from it for very long, never write down the words directly heard from his lips, but from another informant.

(2) Write down your information as soon as you hear it.

(3) At the end of every meeting test every word written down in the opposite way, *i.e.*, having previously said a word in a common language or pointed to an object, now say the word in the native language and see if it is recognized. It may be unrecognized as the attention of your informants may have wandered or you may have made a phonetic mistake, you may have written something totally different from what you intended—never mind if it is translatable, get the translation of it, it is all good linguistic material.

(4) Never trust to one informant only, and whenever possible test the information you have gained on people who were not with you at the sitting when you obtained it.

(5) When naming objects choose natural objects only.

You may have reason to suspect some peculiarity in the language, such as grammatical categories, varieties of tone to express changes either in meaning or in grammar, the presence or absence of case, gender, suffixes, or prefixes or perhaps alliterative assonance. You must devise some sentences to prove or disprove the idea, once on the track you will follow it up rapidly. White men have been actually known to speak a language for years, and be understood by their immediate entourage of natives, without having realized they were dealing with a tonic language.

In daily intercourse, as distinct from “work” of the kind described above, you can listen for greetings, household requests, and short phrases in common use, and take every

chance of trying them yourself on the company and getting their corrections. Children are good helpers, because they make less effort to understand you through your mistakes. When you can take down a short text of two or three consecutive sentences, repeat it again and again to your friends, adopting their corrections until you can make it perfectly intelligible.

It may be objected that information of the kind indicated is inferior to texts written down to dictation from natives—this is quite true. Stories, or descriptions of everyday life or ceremonies are the best information to place in the hand of the philologist so that he can construct his grammars from them, but in order to transcribe and translate them with any degree of accuracy a thorough knowledge of the language after a prolonged stay is necessary. On the other hand results obtained by this method will be far more valuable than the translation of lists of words, and the arbitrary sentences which are published in numerous vocabularies. Any one sufficiently advanced to write texts to dictation should then study language as an *Art* as well as a means of communication; examples of *prose*, stories, history, myth, fables and proverbs, and *poetry*, epic poetry, songs, hymns, prayers and spells should be obtained. The last two may be expressed in either prose or poetry, and the possibility of the use for these purposes of obsolete or untranslatable words should be borne in mind, as well as the use of secret or cult languages for any special purpose. The value of the phonograph or gramophone for recording language as well as music is obvious (*v. MUSIC*, p. 311).

So far nothing has been said of orthography. Some people have a natural gift for detecting sounds and tone and reproducing them correctly, but this does not help them to transcribe them so that others can repeat the same sounds intelligibly; others translate every sound they hear to the nearest approximation to their own native language before even repeating them, much less writing them down. English investigators of this type make peculiarly bad mistakes because English is not phonetic. It is greatly to be desired

that everyone who is ever likely to require to transcribe or learn a new language should first make a study of phonetics. The study need not be extensive, a simple text book* and a single demonstration from an expert will be of value. When once it is realized that no sound is impossible to any man (except those due to malformations and mutilations, such as the removal of front teeth and the use of lip-plugs), that every sound has its particular articulation, and that the mouth is only a sounding-box whose capacity is constantly altered by the position assumed by the lips and tongue, the whole attitude towards pronunciation changes, and difficulties first become interesting and later vanish.

PHONETICS

I.—Linguistic information, if it is to be of any scientific value, must rest upon a foundation of accurate phonetic observation. Our familiarity with the sounds of our mother tongue, and the ease with which we perform the necessary physical processes, are apt to persuade us that we are naturally fitted to observe and record the sounds and processes of other languages. There is probably no branch of science that more urgently requires a total suppression of the personal factor than this branch of linguistic observation, and it should be the investigator's first task to become acquainted in detail with the nature of the processes that bring about those acoustic elements in his mother tongue upon which intelligibility rests. He will have to rely, in the field, upon his ear, which hitherto has been trained to pick up the significant acoustic features of one language only, viz., his mother tongue. If the investigator is to provide reliable linguistic information, he should see to it that his ear has been thoroughly trained before he embarks upon the very difficult task of taking down a hitherto unrecorded language.

For anthropological purposes, theoretical phonetics is of little direct use : the investigator should make his knowledge of the subject as practical as possible, and his practical training

* See books recommended, p. 362.

should be carried out under the guidance of an experienced phonetician.

II.—From the acoustic point of view, a language may be said to be made up of :

(a) Sounds.

(b) Attributes of Sounds.

i. Relative Length of Sounds.

ii. Relative Pitch of Sounds.

iii. Relative Loudness or Prominence of Sounds.

III.—Accurate and reliable information must be given on all these points; the isolated sounds must be described in modern scientific terminology. Loosely descriptive adjectives such as “hard” and “soft,” “thick” and “thin” “clear” and “dark,” should not be used in writing of speech sounds; all sounds should, as far as possible, be described by reference to the physical movements or articulations by which they are produced. The number of technical terms required for this purpose is not large and can be learned from any good modern text-book of Phonetics.

Observation must also be made of the modifications that speech sounds undergo in connected speech, and some care is needed to determine whether any new word is a significant variation or an accidental assimilation of a word already known. For example, if English were being recorded for the first time, it would be unnecessary to record *thish* as a significant variant of *this*, even though it is almost universally used in ordinary speech in phrases like *thish shop*, *thish shoe*, etc. (and often in *thish year*), because by testing both pronunciations the investigator would discover that *this* in such positions would invariably be equally intelligible.

Any noticeable variations in the length of sounds, vowel and consonant, must be marked, and the most careful observation made upon the intonation of the speaker. Our familiarity with the intonation scheme of our mother tongue is apt to persuade us that there is no such thing, or that our habitual tonal modifications are “natural.” But our English tonal system is in reality a complicated affair, deeply involved with

our syntax, our sentence structure, and our unique stress accent.

The tones of a language are as essential to intelligibility as its sounds, and in some cases, intelligibility may be more dependent upon tone (*i.e.*, pitch) than upon the sounds.

The investigator should make it his business during the period of his training to get some practice in taking down a tone language, *i.e.*, a language in which the meaning of words varies with variations of tone, such as Chinese, Yoruba, etc. His aim in the field should be to present a written version of the language that shall adequately represent all those features in the pronunciation of the language that are essential to intelligibility, and to present the version in the way that will be of most practical assistance to those whose business it is to observe, to classify, or to learn to speak the language. Such a version is an accurate *phonetic transcription* of the language, which is something entirely different from an orthographic version of the language.

The production of a phonetic transcription requires of the observer two qualities :

1. the ability to hear, distinguish and classify a very much larger variety of sounds and tones than he is accustomed to ;
2. sufficient familiarity with an adequate and practical system of notation to represent on paper what he hears.

IV. *Ear Training*.—Regular training may be obtained at most modern Departments of Phonetics. Such training should comprise some practice in taking down the actual pronunciation of native speakers of African and Asiatic languages, but this should not be attempted until the observer can write down accurately the sounds of his mother tongue, and of one or two of the principal European languages. He should be familiar with the principles upon which the modern system of classifying vowel and consonant sounds rests, and he should be able to recognize, and describe in detail, the principal speech sounds of the most important languages in the world.

He should further be able to make these sounds, so that

when the occasion arises, he can verify his conclusions by actual pronunciation. It is only by repeatedly pronouncing a language to a native speaker, testing the actual spoken word in every detail of sound, length and pitch, that the observer can arrive at any reliable conclusion.

V. *Notation*.—It will be realized that some sort of alphabet is necessary, and the wise observer will resist the temptation to invent an alphabet of his own, for such an alphabet will be of little use to anyone but himself. There are alphabets in abundance in existence, and the student need not add to their number. Recent research into the various desirable qualities to be postulated of a phonetic alphabet will be found summed up in the Memorandum on the Practical Orthography of African Languages.

Too much must not be expected of a phonetic alphabet; it must be remembered that no system of visual symbols will ever adequately or accurately represent a system of sounds, for the very elementary reason that sound and sight are irreconcilable. A phonetic alphabet is at best but an approximation, but it has the merit of being shorn of the arbitrary conventions that exist, in most historical alphabets, between sound and symbol. Relationship between sound and symbol in all languages rests upon conventions that vary from language to language, and, indeed, from word to word, in any given language. A phonetic alphabet, if it is scientifically designed, must reduce these conventional relationships to a minimum, and be capable of representing as adequately as is necessary for practical and scientific purposes, the pronunciation of any and every language. The alphabet of the International Phonetic Association, which is the joint production of a number of linguistic scholars, and is based upon many years of practical experience in taking down unwritten languages, is quite adequate for any scientific purpose.

VI.—In actual practice, the observer should repeat to the native speaker every word, phrase, or sentence taken down, imitating as closely as possible the native pronunciation. If the observer's pronunciation is rejected, then he should make an effort to see precisely what feature in his pronunciation is

at fault. If his pronunciation is accepted, it must not be assumed that it is correct, for most native speakers are over-tolerant of a foreigner's attempt to pronounce their language. Deliberate mispronunciations must then be tried, to see whether the native speaker is willing to accept any approximate version, and these deliberate mispronunciations must be carefully designed to test for:—

1. sounds ;
2. length of sounds or syllables ;
3. pitch of sounds or syllables.

Not until the observer is satisfied that he is capable of producing at will a pronunciation that the native speaker will accept every time, should he attempt to draw any conclusions as to the essential acoustic features of the language under observation.

It is recognized that any worker other than a linguistic specialist is unlikely to use or need the whole of the alphabet of the International Phonetic Association. A somewhat simplified form, "Practical Orthography of African Languages" (published by the International Institute of African Languages and Cultures, 22 Craven Street, London, W.C.2. 1929, 2nd edition, price sixpence), should be obtained and studied.

The use of a large number of letters of special type is inconvenient in anthropological work, though necessary in linguistic work, and can often be avoided. It may be mentioned that only a certain number of the sounds that require special symbols will be necessary in each language. If the worker prefers to use diacritical marks he should be careful always to make a note equating it with the correct phonetic alphabet, but the psychologist, the pedagogue, and the type-founder all condemn diacritical marks. In any case he should make it quite clear what system of transliteration he has adopted.

"General Phonetics," by Noel Armfield, Heffer & Sons, Cambridge, will be found useful, and the International Phonetic Association has numerous publications. Address: Secretary, University College, London, W.C.1.

ARCHAEOLOGY

Archaeology and Ethnology are the same subject considered from different aspects. The latter deals with existing conditions, the former with those that are past; but the past may be remote or even quite recent. The traveller is very likely to find, for example, stone implements treasured by natives who do not know their original use, though they have acquired a magical value. Potsherds, stone implements, or other artefacts may be found, in the superficial soil, concerning the origin of which the living natives are ignorant. Every object of this kind should be collected.

The student in the field may at times find himself in a position definitely to add archaeology to the subjects under investigation, and if he is in a region to which the archaeologist has not penetrated, there may be opportunities of making known important sites. If the region is remote and inaccessible, it will be advisable to make the most of any chances that occur, but in other cases, especially when excavation on any considerable scale is necessary, it may be better to avoid any risk of damaging the site by attempting work with inadequate resources, and with insufficient knowledge of archaeological technique. Surface structures, such as those referred to below, may need for their elucidation systematic excavation within or around them, and it is all-important that such digging should be so carried on that the exact levels of all finds are recorded, and that artefacts from each level are labelled and packed in such a way that confusion cannot subsequently arise. Where ancient implements of stone or metal are found and preserved by the people, inquiries should be made as to their place of origin, and whether they are found on the surface or are dug up. Information obtained in this way may provide clues to sites on which digging may be profitable. There may also be native accounts or legends of

ancient buildings hidden in the jungle or amongst the mountains, outside explored areas and travel-routes.

It should be particularly noted that small and apparently trivial artefacts, or parts of artefacts, may lead to important deductions, and nothing should be allowed to escape the eye or the sieve of the excavator. Potsherds and beads for example, give valuable information as to culture, contacts, and periods. *Refuse heaps* should be carefully dug into. The more superficial layers may contain only such objects as are still in use. The deeper layers may progressively contain obsolete objects, which, therefore, are more strictly archaeological than ethnological. In so far as the smaller archaeological finds are described by the observer on the spot, reference should be made to the appropriate sections in this book (v. **STONE IMPLEMENTS**, p. 254, **POTTERY**, p. 250, etc.).

STONE MONUMENTS

In many parts of the world rude stone monuments are found, usually associated with the Cult of the Dead. The stones are often very large, and the name megaliths, of large-stone monuments, is sometimes applied to this whole class of rude prehistoric remains. But mere size has clearly nothing to do with antiquity. "Megalithic Monuments" were made in Japan within historic times, and are still erected in India and elsewhere. In some districts megalithic structures were impossible, owing to the absence of suitable materials. In some megalithic structures, however, the stones are foreign to the district and have been brought from a long distance. Conversely, earthen *hut-circles* are often replaced in stony country by low walls built not of earth or clay but of stone blocks. *Cairns* and *tumuli* also sometimes contain very large stones, large enough to be regarded as megaliths. Some "standing stones" have been left by denudation of such structures, or removal of intervening rubble-walls. Stone dwellings include *caves*, *rock-shelters*, *rock-cut tombs*, *hut-circles of stones*, *bee-hive dwellings*, *crannogs*, *earth-houses*

(v. HABITATIONS, p. 205). The following scheme of classification attempts to secure uniformity of description.

Standing stones (*menhirs* or *monoliths*) are single stones set upright, either rude or worked. They are sometimes perforated, and reasons given for such perforation should be noted. They may be carved in various ways or bear an inscription.

Groups of standing stones: *alignments*, or rows of single upright stones; *avenues* or parallel alignments defining a roadway, they may be either open or covered; *enclosures*, which may be circular, oval or rectangular; a rare form is the *trilithon* in which two upright stones support a third.

Stone Circles.—A stone circle consists of a ring of stones of varying size usually in an upright position, and in the centre may be a standing stone or a stone burial chamber. A circle may enclose a tumulus or cairn, which may in some cases have been demolished so as to leave merely the circle and the burial chamber. A circle may enclose an interment. Great circles are sometimes composite, like Stonehenge and Avebury. Sometimes the circle may be surrounded by a low bank and ditch, the relative positions of which should be noted.

Table-stones, *dolmens*, or *cromlechs* consist of three or more upright stones set about a space, supporting one or more capstones. "Dolmen" and "cromlech" are antiquarian inventions, the former is commonly used (especially in France) as equivalent to a stone circle. These are sepulchral monuments, or connected with a Cult of the Dead. In some parts of Assam, Indonesia, and Melanesia, a table-stone, which may be of small size, is definitely associated with one or more standing stones, the number of which may be significant. Such a group has been termed a *dissolith*.

Sepulchral Chambers within long and round barrows usually consist of uprights, or dry walls, and capstones.

Cists, "stone chests," are any small stone-lined sepulchral chambers, whether enclosed in a tumulus or not.

Tumuli are earthen mounds generally covering a grave, locally known in Britain as *barrows*, *lows*, etc. There are several

varieties; "long barrows" have parallel side-ditches; "round barrows" usually have a ditch encircling them (*v. p.* 369).

Cairns are tumuli composed of stones or rubble, and may be simple memorial erections.

Stone offering-places in Indonesia may consist of a large usually flat stone, or a circular, or rectangular structure of heaped-up stones with one or more flat stones on the top; but there are many varieties of these.

There is so much variety in the stonework and monuments of the Indo-Pacific area and in America that the different types cannot be enumerated. There are, for example, terraces and platforms; stepped pyramidal structures, truncate or otherwise; vaults, chambers, and pits; stairways; enclosures of stone walls or slabs of stone; slabs of stone set up for back-rests in a line, circle, etc.; posts and even rafters of stone for houses; walls of stone; stone forts; and other remains. It should be noted whether rough or dressed stone is used, the details of buildings, etc. (*cf. General Questions, below*). Any carving (or painting) of, or on, stone monuments of any description should be carefully recorded.

In some cases associated with stone monuments of various kinds, but not necessarily so, are natural stones, rudely or elaborately carved stones, any of which may be painted. The significance of these and the uses to which they are put are too varied to be enumerated. With monuments constructed of stones may be classed also (1) all *Earthworks* (*q.v.*) associated with them; (2) *Sculpturings*, such as cup and ring marks, etc., either on natural stones and rocks, or on sepulchral structures; (3) *Hill-side sculptures*, such as the Uffington White Horse and the Cerne Giant; (4) remarkable natural features attributed to supernatural origin, such as the "Devil's Punch Bowl"; (5) Natural rocking stones, or *logan-stones*.

General Questions.—Note in all cases the situation of the stones and the ground-plan of each monument, marking standing stones in solid black, prostrate stones in outline, and capstones in dotted outline: this will aid comparison with the work of other observers. Record also the compass-bearing, and be careful to state whether the bearings marked on the

plans are the compass-bearing or true bearing. Give both, if possible, and add the date, to check the deviation of the compass. Note particularly all irregularities of plan and varieties of arrangement among monuments of similar general plan. Observe whether these varieties are due to local conditions and original design, or to subsequent alteration, dilapidation, or repairs. Give approximate measurements of the principal stones (at least, the height above surface, the breadth, and the thickness; add the length if the stones are prostrate.) Ascertain whether the stones are of kinds which are found close at hand or must have been brought from a distance. This is strictly a matter of observation, and distinct from the question whether the natives *say* that the stones were brought, hurled, or dropped from a distance, or from the sky. If the stones are not all of the same material, note how the different kinds of stone are distributed about the monument. Are holes bored in the uprights, and, if so, by art or by nature? Are any superstitious observances connected with these or similar holes?

Is there any evidence that the stones were formerly covered by a mound of earth or cairn of stones? Note, as a clue to date, the approximate age of all trees which grow among or very near the stones.

Record all observances, beliefs, and traditions respecting the stones; are any offerings made at them? Are they ever daubed with any colouring matter? Are there any remains of rude mortar in the interstices?

WOODEN MONUMENTS

There are many kinds of wooden monuments which bear some relation to those of stone elsewhere. A post or tree may be surrounded by a stone circle; posts are known in some instances to have been arranged in single or concentric circles. Posts may be more or less carved and painted, and these should be very carefully noted. Are wooden monuments erected where suitable stone is available? Is there any direct relation between wooden and stone monuments?

EARTHWORKS

In most countries earthworks of various kinds exist, of which the age, purpose, and method of formation are unknown. On these matters observations of similar works of more recent construction may throw some light. The tactical position of defensive works should be carefully noted, and all attempts that have been made to utilize natural features. Earthworks should be measured and drawn to scale, and approximate cross-sections given in more than one direction. Earthworks may be thrown up along the banks of rivers to prevent floods, or across streams so as to cause floods and form lakes. Artificial channels are excavated for drainage, for irrigation, or for communication by means of boats. Artificial islands, like the Scottish "Crannogs," serve as places of refuge. Terraces and *lynchets* on hill-sides are agricultural. Other earthworks are thrown up for hunting purposes, or to give approach to bridges, or for landmarks, or memorials.

Where such works are being carried on at the present day, state their object, and describe the processes employed in erecting them. Note how the material is procured; how it is transported, p. 278. What tools are used for digging and carrying? Give an estimate of the number of men, women, and children employed, and of the amount of work done in a given time. This may be checked by appending rough measurements of the earthwork, and a diagram of its cross-section. Are other materials employed besides earth? If piles are employed, how are they driven? If palisades are used, how are the posts prepared and fixed in the ground? What is the mode of entrance and its defence? What is the usual manner of constructing bridges? (v. p. 277).

Hut-circles and other remains of Ancient Dwellings.—Examine the floors as far down as the undisturbed soil, and note traces of burials or other pits beneath the general floor level. Take plans and cross-sections, and note the direction in which the doorways face, position of hearths (indicated by a small platform of stone, gravel, or clay) and other internal fixtures.

Note traces of the holes in which posts stood to support walls, roofs, or gates.

Tumuli or “*barrows*” are burial mounds : a most important class of earthworks, both in ancient and modern times. Their general situation, form, and dimensions should be described, and, if possible, they should be mapped with contours, or at least recorded in a sketch and plan ; some earthworks are very difficult to photograph, and should be drawn by eye as well. The structure of a tumulus is often more important than the relics discovered in it. Ceremonial enclosures are sometimes found within these earthen mounds. These enclosures sometimes consist of trenches and stones which supported a wooden palisading of some kind ; sometimes they are built of stone slabs set on end. More rarely, dry-walling is discovered within the area of the mound. If there is opportunity for excavation, the following general directions should be observed :—

Take careful profile sections of the surface of the tumulus, when possible before excavating, and observe whether the summit of the mound bears any signs of previous disturbance. Drive in a picket at some spot where it is not likely to be covered by the excavated material, and let a mark on this be a standard of reference for the levels of all objects discovered in the tumulus, especially if a contoured plan has not been previously made. Cut a trench across the highest part of the barrow, from the foot of the slope, preferably from N. to S. or from E. to W., or both, keeping the diggings clear by transporting the material quite clear of the mound. *Be careful to reach the old surface-line everywhere* ; it can generally be recognized by a change in the quality of the earth. Look out for holes in the undisturbed soil and examine their contents carefully. The primary interment may either have been cremated or inhumed : in either case, when it is reached, dig downwards over it from the top. Note the levels of any objects of human workmanship, including all fragments of animal remains and relics, pottery, and layers of charcoal. If after its original construction the tumulus has been used for a subsequent interment, distinguish carefully the primary

from the secondary deposit, and be careful to note separately all relics associated with each. Examine carefully all depressions in the sides of the mound, since these sometimes contain secondary interments. For relics deposited with the dead (*v.* GRAVE-GOODS, p. 117). Take the compass-bearings of all interments; preserve the skulls (with the lower jaws and any fragments of skulls), and all recognizable bones. Measure each bone before removing it, as old bones are often very fragile (*v.* PRESERVATION OF BONES, pp. 9, 386); make sketches and take photographs of the relative position of the bones and all associated objects.



PHOTOGRAPHY AND COLLECTION OF SPECIMENS

PHOTOGRAPHY

These notes are intended for the anthropologist who combines photographic work with other occupations. If the expedition consists of several members, it is preferable that one should be specially detailed to do most of the photography, and there should be, as far as possible, complete interchangeability of the plates or films for all cameras.

Although the selection of equipment will depend on the country to be visited and the work to be done, modern anastigmatic lenses are capable of a wide range of use, and the amateur will, when possible, find it best to use the same camera as much as possible. When it is intended to do studio or semi-studio work, such as detailed photography of still objects, *e.g.*, inscribed stones, architectural details, or objects which can be conveniently grouped against a background a half-plate camera, preferably of the "tropical type" strongly built of well-seasoned wood and brass-bound, although by no means a necessity, is a useful luxury; it is also most satisfactory for landscape work. Such a camera is, however, unnecessary except where archaeology is to be combined with anthropology. Extra lenses (*e.g.*, a wide-angled anastigmatic lens) add considerably to the value of such a camera, especially for architectural work, and a rising front is essential.

For pictures of ceremonies, dances and technological operations, which demand an instantaneous picture of a given subject at a particular moment, a reflex camera, allowing the field to be seen in the focussing screen until the actual moment of exposure, is of the greatest advantage. Most of these

cameras can be used with roll film, film pack, or plates as required.

For general work a small camera of about vest pocket size will probably produce the most satisfactory results, while a quarter-plate forms a convenient reserve, as at a pinch it can do the work of either camera. On the other hand, many field workers do not like any camera smaller than a quarter-plate, which incidentally has the advantage that it is big enough to do away with the expense of enlarging in order to provide a working set of prints. The small camera can be carried in the pocket, or, better, round the neck, without anybody being aware of its presence, and is always ready with the minimum amount of preparation.

Although greater sharpness can be obtained if the small camera is of the type which permits the use of a focussing screen, quite satisfactory results can be obtained with a fixed focus type.

If bad light or very heavy shadows are likely to be met with a lens with an aperture of F4.5 is useful, but for general purposes, except in skilled hands, it will be found better not to use a wider aperture than F6.8. As the speeds of most cameras do not coincide with the numbers written on the dial, it is a good practice wherever possible to use a standard speed, say that marked $1/25$ second on the dial. The exposure can then be graduated by using the appropriate stop. Only experience can teach the proper exposure in a particular case, but the use of one of the many exposure guides or preferably of an actinometer will give the normal exposure, which must be varied according to the subject. Always expose for the nearest and darkest part of the subject, using as a rough rule :—

Open sea, snow	$\frac{1}{4}$	normal exposure.
No foreground, only middle distance	$\frac{1}{2}$	„ „
Black skins	$1\frac{1}{2}$ -2	„ „
Heavy foliage in trees, deep shadows		
in the foreground	2	„ „

After taking a few pictures in the place where work is to be done and developing them immediately, the results will show

exactly what relationship the type of film or plate used and the speed of the shutter bears to the ideal combination shown in the exposure meter. A direct viewfinder, fitted to many modern cameras, is usually quite satisfactory.

Choice of Plates and Films.—Plates if used should always be backed. For general purposes, however, films are of far more practical use than plates, not the least of their advantages being their light weight and their unbreakable nature, and the fact that they can be easily sent home by post for proper storage till required. Their light weight means that a greater number can be carried, and they are easier to manipulate.

The modern roll-film will stand the tropics and occupies little space, but film-packs are probably the most convenient for anthropological work. It is easy to break the pack, without destroying the films and to develop one or two as a test, at the same time film-packs can be easily removed from the camera to allow focussing. At least two film-pack adapters should be carried, twenty-four films are then available without any changing, and it so often happens that opportunities for taking pictures come in rushes. The thicker the emulsion and the celluloid the more satisfactory, while the nature of the film makes halation, a difficulty with plates, almost non-existent. Packs or roll-films can be obtained sealed in tin boxes. After use in a damp climate the boxes should not be resealed, in a dry climate it is better to reseal them with the adhesive rubber strips with which the makers fasten them, care being taken to see that all packs or rolls are wrapped in red damp proof paper before being put in tins. The paper with which the films are wrapped by the makers should therefore never be thrown away, but when changing the used pack should be wrapped in the paper off the new pack.

Manipulation.—Do not leave the photographic equipment to be collected at the last moment, but practise with the selected cameras, plates, films, and developer beforehand. This will show the potentialities of the cameras, it will not, of course, show the exposure but will help, especially in the selection of the subjects chosen for each type of camera. As a suggestion, the half-plate might be used for a general view of

a village at home and architectural details of the church, the quarter-plate for typical corners of the village and for some portraits, and the reflex camera for people doing things, the gardener sharpening his scythe, for example, two or three dozen pictures made in this way will be of the greatest value.

Although undeveloped negatives can be safely sent home for development, wherever possible, all negatives should be developed in the field, and in any case a few must be developed to see that exposures are correct, and that the cameras are in working order. Tank development is by far the most satisfactory and gives the correct development. It has been proved that exposure governs density and development contrast, it is not possible to correct a badly exposed negative by giving an abnormal development. In addition, tank development saves time and avoids long confinement in the dark room. Developer should be carried in a desiccated form, tabloids are convenient. The factors governing development depend on the type and strength of the developer used, and the temperature of the water. Most makers supply a table showing these facts. It is possible to develop even at high temperatures, but all negatives should be hardened before development, formalin being probably the most useful for tropical work (1 part formalin to 20 parts water, alum may alternately be used in similar proportions). If it is found convenient photographs may be desensitized before development, they can then be handled with greater ease and safety. In the tropics it is advisable to do all developing and washing very early in the morning. A plentiful supply of water is essential, well water if possible, as this is usually cleaner and colder. If pool or river water is used, it should be run through gauze into buckets and allowed to stand, the water should then be baled, *not* poured, out of the buckets and refiltered if necessary before use. A good supply of water should be on hand to mix developer, hypo (acid hypo should always be used), and for washing between developing and fixing, which should always be carefully done where tank development is employed. The final washing should last at least an

hour and a half, and, if possible, running water should be used, this can often be arranged by a siphon.

The negative should be washed for about a minute or so and then transferred to a dish of water containing enough permanganate of potash to make it pink. Take out the negative as soon as the hypo takes away the pink colour and use a series of very weak permanganate baths until the hypo is eliminated, *i.e.*, until immersion of the negative in a bath does not change the colour of the bath. It will be found in practice that the permanganate baths if left to themselves soon lose their colour, but the effect of hypo on them is very rapid.

The vessels used for each operation should be kept separate, and never used interchangeably. If necessary sea water can be used as a hypo eliminator, but great care must be taken to see that it is free from sand, etc., and subsequent washing in fresh water is necessary. Washed films should be hung up to dry with clips, a string forming a convenient base for the clips, but care must be taken to keep them out of the dust, or, naturally, rain or mist.

Methods of taking Pictures.—The modern traveller is expected to produce pictures of artistic as well as of scientific value, attention must therefore be paid to composition. So many pictures which look pretty to the eye make dull photographs. In landscapes, etc., the lighting and direction of the shadows are most important factors, and, as a general rule, photographs taken at right angles to the sun are best. Avoid, too, much detailless foreground, with the shadow of the photographer prominently displayed therein, and “expose for the shadows allowing the highlights to take care of themselves,” *i.e.*, use the actinometer in the darkest part near the camera where detail is required. Except in landscape work take pictures in the shade, but landscapes in the shade are always disappointing. If you want to use a shadow as background do not test your actinometer in this shadow but by the object to be photographed. By thus under-exposing the shadows an excellent background can be obtained. For instance, the object to be photographed is placed in an open doorway the

interior behind being darkened as much as possible. Where the object itself is dark conversely a light background must be used. In open country the sky above the horizon may be used. Where this is not possible an artificial background made of cloth, preferably of a dove grey colour, is stretched between two poles at sufficient distance from the object to be out of focus, but near enough to cover the whole field. A roll of such cloth is easily carried and fixed to poles as available.

A folding stool is a most useful accessory especially when photographing low objects or seated persons.

Portraits.—The most important anthropological pictures will be portraits, which must never be taken in the sun. The head of the sitter should not measure less than $1\frac{1}{4}$ in. on the focussing screen in pictures for contact prints. For enlargements less may be safely used, but such pictures must be very sharply focussed, free of all movement and correctly exposed. Focus on a particular point, *e.g.*, the eyes in full face, the nose in profile.

Groups should be avoided as far as possible, they are no substitutes for single photographs, and are apt to be wooden and not to show features properly, they should be limited, as far as possible to groups doing something or showing natural posture. The best background is the open doorway or artificial background already described. Failing that a wall, especially if it be of mud, makes an excellent background provided that the subject is far enough from the wall for the latter to be out of focus.

Where people are very shy it has sometimes been found satisfactory for one man to make great play with the stand, camera, and focussing screen, while the real portraits are being taken with a vest pocket camera concealed under the coat of a second. Where possible the subject should be given a metric staff to hold. Ideally a true front view, a profile and a three-quarter view should be taken, but this is not always possible. The first two should be full length, the last a close-up of the head and shoulders only. The subject should have a number attached to him, corresponding to the serial number of the anthropological record card, p. 11.

if measured. A convenient numbering device consists of a strip of zinc, one side painted white. To the back of the strip two tags are soldered, pierced with holes through which a string is passed. The device can then be hung round the subject's neck. Along the top and bottom edge of the strip a flange is soldered. Numbers cut out in zinc painted black are pushed in and held against the white painted strip by the flanges. To secure them firmly in cutting them out a narrow strip of metal is left at the top and bottom of the number. These strips are hidden by the flange.

Many film packs and roll films are numbered serially on the emulsion, as well as the backing paper, a note should therefore be made of the number on the black paper, and the packs or rolls numbered after exposure. It is convenient not only to note the subject, but also to give details of exposure, stop, etc., for future guidance.

It is a good plan to take more pictures than are required, varying the stop with each exposure. It involves little trouble and with the small camera little expense. When a subject is of particular importance "bracketing" is useful, that is, first a picture is taken with what is believed to be the correct stop and exposure, say $1/25$ second at F11, two others are then taken with the same exposure, one with stop F8 and the other with stop F16. Unless the photographer is particularly unlucky one of the three should be a first-class negative.

Portraits taken in the field will often be too small for use at home. The enlarger provides a most valuable aid to the anthropologist, and if negatives are sharp even a single head in a group may be enlarged so as to show such details as the Mongolian fold in the eye.

Successive pictures in the stages of manufacture of an object or a ceremony are of the greatest value and can be taken rapidly with the reflex, or the vest pocket camera. In taking such pictures the operator must make himself as inconspicuous as possible so that the craftsman may not be continually looking at the camera. In this and indeed all types of photography in the field never wait till the light is

better, take the pictures, if the light improves and you get a second chance make a duplicate set, but the second chance may not come.

SUGGESTED MINIMUM EQUIPMENT.

1. Reflex camera.
 2. Quarter-plate stand camera, a reserve to do the work, if necessary, of the larger or smaller cameras, with slides and film-pack adapter.
 3. A folding camera, quarter-plate or vest pocket size, with film-pack adapter, for instantaneous work.
 4. Tripod, strong enough to stand rough usage, spare screws, and folding stool.
 5. Extra lenses, useful but can be dispensed with.
 6. Focussing cloth, focussing glass, and cloth for artificial background.
 7. Actinometer, and spare supply of sensitive paper.
 8. Plates and film packs, with an especially large supply for camera No. 3.
 9. Developing tanks, dishes, and graduated measures.
 10. Thermometer.
 11. Glass rod.
 12. Developer in compressed form.
 13. Acid hypo.
 14. Other chemicals, *e.g.*, hardener, desensitizer, etc.
 15. Pins and clips for films.
 16. Drying racks for plates.
 17. Envelopes for plates and films after development.
 18. Printing frames and paper may be carried if desired, self-toning is very convenient in the field.
 19. Photographic notebook.
 20. If a great deal of photographic work is done a dark room clock is very useful.
- A safe dark room lamp, with fabric sides in a tin case, preferably two, in case one gets out of order.

22. Changing Bag.—It should be pointed out, however, that plate changing and even developing can be done in most tents, if not too near a camp fire, even on a moderately light night, if a blanket is hung over the top of the tent so as to give an additional thickness of material, and this even with Imperial Extra Rapid Plates.

A complete photographic outfit would include a good deal more, but excellent results can be obtained with the above equipment, provided that there is no stint of items 8, 12 and 13.

If the expedition includes several members, each should be encouraged to carry his own snapshot camera. Pick up "en-route" any old petrol or kerosine tins, clean them thoroughly, they will prove invaluable. A few lengths of rubber tubing are very useful; they should be obtained as near to the scene of operations as possible as the rubber is likely to perish.

KINEMATOGRAPHY

The kinematograph, invaluable as it is for giving a record of the life of native peoples, involves difficulties which make its use not very practicable in most scientific expeditions. The use of the camera needs a man's whole attention. Where plenty of time is available the scientific traveller, having already made himself thoroughly conversant with native customs and habits could do good work with the kinematograph, provided that first he could devote himself entirely to it, secondly, he had good native assistants, and thirdly, had a short training in kinematograph work before the expedition. To profit by such a training, however, he would previously have to have a good knowledge of photography. Where a kinematographer is included in the expedition it is usually advisable that he should be an ethnologist first, and kinematographer second, as it is very difficult for the average kinema man to fit himself into a scientific *milieu*, owing to his different training. Even so it is highly desirable that an ethnologist, who has a good knowledge of the craft or whatever it is that is being photographed, should advise the photographer when to shoot a

few feet of film. The director should confine his attention to the craftsman, and the photographer should confine his attention to working the camera. The compromise of a small sized and cheap camera is unsatisfactory, and the expedition intending to take apparatus into the field should be equipped with the following apparatus: First, a full-sized reliable professional kinema camera costing about £350 in England or rather more than half that sum in France.

A 35mm. and a 50mm. lens are absolutely necessary and a 75mm. or a 100mm. lens might be added. The first is very useful for work at close quarters and in crowds. A telephoto lens is of little value in photographing peoples but a wide aperture, *e.g.*, F3-5, such as is made by Dallmeyer, might be useful for taking interiors and poorly lighted scenes. Reflectors made of wood and covered with tin foil, although troublesome to use are a useful addition. The cost of a slow motion camera makes it impossible for a scientific expedition.

In addition to the kinema camera, ordinary cameras must be carried (*v.* PHOTOGRAPHY, p. 371) as the kinematograph film is too small to make satisfactory enlargements, even if the images were sharp enough, which they usually are not owing to movement. In case of absolute necessity enlargements can sometimes be made from kinema films, and often they make quite good lantern slides, but where possible both types of pictures, still and moving, must always be made.

Arrangements should be made to ship back films for development at as frequent intervals as possible, new films being sent out periodically. In the field, however, the exposure should be tested periodically. A changing bag can be used instead of a dark room, and the films may be transferred inside it from the boxes to the magazine, or test strips may be developed. This should be done by cutting off small strips, a few inches long and developing them with a standard developer in a tank, with a fixed time and temperature. Owing to the great length of film, development in the field should be avoided, except perhaps in the tropics, or where the expedition is a very long time away from its base. In most cases negatives keep well and will stand six months' travelling, especially

where the climate is fairly dry and the film can be replaced in its tin boxes and resoldered.

As the order of different parts of a ceremony or technical process, *e.g.*, pottery making, is not always apparent from a film and may become inverted during editing, careful notes should always be made. It makes subsequent identification easier if an assistant is employed to hold up in front of the camera at the close of each episode or scene a slate on which the scene is numbered and dated.

Film costs about 2d. a foot and developing and making the first print as much again. A single hour's lecture which requires about six thousand feet of negative, may therefore need a film which costs about twenty-five pounds. The cost of a kinematograph to an expedition is therefore considerable and runs into hundreds of pounds. Where funds and labour, however, are available the kinema forms an invaluable addition to the scientific study of native races. Pictures should not be limited to ceremonies or to technological subjects, but should include characteristic attitudes and movements of the people, which are extremely important but difficult to record by other methods. Facial expression is also usefully noted by moving pictures.

GENERAL NOTE ON THE COLLECTION OF SPECIMENS

Every collection of examples of a people's arts and industries should illustrate, as far as possible, the natural objects and materials utilized, and the artificial appliances, manufactured or adapted, with special reference to material, form, construction, decoration, and application.

At the same time that these are collected, notes should be made on the social and magico-religious ideas connected with their manufacture and use.

Collect, therefore, not fine specimens only, but objects in common use. If possible, secure articles intended for the maker's own use or for native trade. To collect specimens of

native work merely because they are pretty, and without ample notes to identify and explain them, is useless, and may well be misleading to students. It is certain in any case to mislead the native craftsman and affect his standard of workmanship. If an article was made for European trade, or to your own order, as a model, specify this on the label. When you find a craftsman or craftswoman at work, you should watch the making of an article from start to finish; sometimes it is best to see the process through without interruption, unless the article is large or seldom made. Then get the maker to start a similar example, ask the names of the raw material, the tools, the whole article and every part of it, the name and significance of each part of the decoration. Ask where and by whom the material is obtained, and how it is prepared. Does one person carry out the whole process of preparation and manufacture? Is the article for the maker's own use or for sale? If for sale, will it be disposed of in open market to visiting purchasers? to someone at a distance? to a middleman? Does the maker keep a stock of such articles? If so, how will he dispose of them? Some native systems of credit are elaborate and require careful study. Is the article bespoke by a customer? If so, who provides the material, and will the workman be paid by time or piece-work? Is this his sole or principal means of livelihood? How did he learn his trade? Make written notes of all this.

It may be necessary to take a lesson in the process in order to make the worker explain it. Photograph the maker actually at work; not (as too often happens) posed and looking at you. Explain the photographs by rough drawings if necessary. Get specimens of the material, prepared and raw; the finished article; and the article in various critical stages of manufacture. This requires patience, for the maker may not understand what use you can have for an unfinished thing. If possible, acquire the tools which he used or others like them, or even models.

Houses, boats, and other articles, impossible to collect, must be described as fully as possible, with photographs, drawings, and measurements; models may often be obtained, but they

will probably vary in relative proportions and in certain details from the originals. The division of labour, paid and unpaid, the employment of experts, the work of men and women, magico-religious rites in connection with the work, are important subjects of inquiry.

Prices.—For articles which the natives buy and sell, ascertain the current native rate, by piece or by time, and do not largely exceed it. Antiquities and heirlooms will naturally be more costly. It is often possible and satisfactory to get the price of important purchases fixed by a small committee of respectable natives. If anything is offered to you as a gift, remember that a present of at least equal value will be expected in return.

Labelling.—Label every specimen at once or mistakes will certainly follow. Lead pencil marks are more trustworthy than ink, which fades. Some specimens may be inscribed directly, without injury; to others labels must be securely tied with string. A very satisfactory method is to write the native name of the object, locality, date, and other information on a small piece of paper (thin hand-made paper is the best) which should be closely folded on itself, tied in the middle of a short length of twine which can then be tied on to the object. It is very advisable to make a rough sketch of the specimen in a notebook, so that it can easily be identified later, and with this sketch put down all the information you can get about it. Give the English and native names for the object, its use, by whom and where made, from whom, where, and when obtained, the price given, and clear reference to your other written notes or photographs. Pack together each related series of raw material, tools, unfinished and finished article. When you ascertain the names of certain parts of the construction or decoration of an article, label each of them. In the case of textiles the name of the design can be stitched on to the particular design; but in many other objects a sketch of the design (or a rubbing) should be made on which the information can be written. Avoid gummed, or adhesive, and parchment labels. In short, leave nothing to memory, but provide as if for a posthumous arrangement of your collection.

Packing.—Good materials for packing are the following :—textiles, paper, wood-shavings, straw ; sawdust is extremely bad. If there is sufficient paper wrap each specimen up separately, so as to prevent chafing and the obliteration of painted designs. Perishable specimens ought to be packed in a tin case and soldered up, to protect them against tropical damp and sea air. Delicate objects must be protected by being enclosed within a small box or the cavity of a strong specimen, but in the latter case make sure that they will not be shaken out in transit. It is sometimes possible to get a cheap fabric such as Hessian with which various specimens can be wrapped up, the loose sides of which, and if necessary the ends, should be coarsely sewn by means of a packing-needle. See that all specimens are quite dry and free from beetle and other insect pests before packing, and sprinkle the packing freely with naphthalin, pyrethrum, or other deterrents. Hair, fur, feather, and perishable fabrics should be sprinkled well with naphthalin before being packed.

In packing pottery the interior of each pot should be filled tightly with paper or straw, so that in case of breakage the space occupied by the vessel shall not be left vacant. It is a wise precaution to paste narrow strips of paper inside or outside (or both) the pot, these should pass from rim to rim across the bottom of the pot and fairly close together ; they tend to prevent vibration and consequent breakage, and to hold pieces together should fracture occur. Pottery is best packed in plenty of crumpled paper, which is springy. Ropes of twisted paper may be rolled tightly around necks, handles and other projecting parts. Hay and twisted straw, dry grass, and even leaves may be used in an emergency but they are more or less liable to shrink and contract, leaving the specimens loose and unprotected. Each pot should be completely wrapped in paper or textile, so that if it is broken the fragments will be kept together and apart from those of others. When heavy specimens are packed in a case with fragile ones, it is necessary to secure the heavy specimens to the walls of the case, either by wiring or by battens running across the case and nailed to the sides. It is essential to

remember that all objects should be firmly packed ; the cases or packages will inevitably be subjected to rough handling and constant joltings and jarrings—any movement of the specimens is bound to act to their detriment. Metal (especially iron) objects should be well greased to prevent oxidation by sea-air and damp. Labels should not be fixed with paste or gum to any iron pieces.

Collection of Plants and Animals.—It is desirable that the plants or animals economically or ceremonially utilized by the natives in any way should be duly recorded. Sometimes the scientific name of these may be known to the observer, but more frequently this is not the case, and therefore specimens must be collected and sent home for identification. A specialist knows perfectly well what he has to do in the matter of collecting and preserving specimens ; others must be content with more rough and ready procedure.

Plants.—For identification purposes it is necessary to collect a few leaves still adhering to the stem, as well as the flower and fruit, with a note on the colours of the respective portions, especially of the flowers and of the leaves where such are used ceremonially. If small, the whole plant with its root might be collected. If large, an indication should be given of the size and general habit of the plant, shrub, or tree. The specimens should be pressed with the leaves fully extended between sheets of paper (newspaper does excellently) and the paper renewed till the specimen is quite dry. The native name, place, date, and other particulars should be affixed to the stem. Sketches or photographs when possible are desirable. Ripe seeds might be collected, as these can be grown in hot-houses at home (*v.* also *Plant-Lore*, p. 341).

Animals.—The preservation of most animals is a difficult business and can only be attempted when the requisite skill and time are available. The most that the ethnologist can be expected to do is to provide sufficient material for the systematist at home. A small mammal or reptile may be roughly skinned, the skin pinned on a board hair downwards and as much of the fat and sinew removed as is possible,

then the skin should be well rubbed over with "taxidermine" (Rowland Ward) or arsenical soap, and allowed to dry thoroughly; the feet and tail should be retained and well dried in the sun, the skull with the lower jaw should be roughly cleaned and the hair removed, and then thoroughly dried. The same procedure is applicable for birds, but if the head and beak, a wing, a leg, and the tail be removed and thoroughly dried, an ornithologist could probably identify the species. Reptiles, amphibia, fish, and soft-bodied animals require to be preserved in alcohol or formalin, but the ethnologist would probably have to satisfy himself with photographs, sketches, and notes as to the colour. Most insects are easily preserved dried. Shells present no difficulty.

Human Remains.—It is often difficult to collect recent human skulls and bones, but every effort should be made to do so. These are generally collected in a state fit to be packed at once, and they should be fully labelled with identification marks written on each with lead pencil. Where the people are head-hunters it is important to endeavour to ascertain the name of the tribe from whom heads were taken. In every case care should be taken to learn the history of each skull; sometimes the name of the individual can be obtained and thus the sex can be recovered. It would be worth while tracing that individual in the genealogies collected.

PRESERVATION OF BONES

Bones of animals and of human beings are often found *in situ* under conditions which render their preservation a matter of great importance, yet lack of knowledge on the part of the finder prevents their preservation.

The most important things to remember are (1) that the edges of broken bones must be kept intact, and not allowed to rub together or crumble. (2) That it does not matter into how many pieces a bone breaks up, provided all pieces, however small, be kept, and the edges of the pieces are intact so as to give direct points of contact. (3) That if a bone is broken or cracked it is usually fatal to attempt to keep the

parts in position when packing, as usually the edges rub together. (4) That if, therefore, a bone is broken or cracked it should be taken to pieces, care being taken that all fragments of a single bone are either marked with an index number, or else packed in the same box so that they can be re-assembled. (5) That if the bone is at all fragile the edges, if not the whole of each fragment, should be treated with some preservative.

The question of the preservative used must necessarily depend on circumstances. If available, a mixture of commercial shellac and methylated spirit in the proportion of $\frac{1}{2}$ lb. of shellac to $1\frac{1}{4}$ pints of methylated spirit is perhaps the best for hardening crumbling bone. Liquid shellac or varnish will serve in the place of flake shellac, and if methylated spirit is not available, most other spirits, but not petrol, will serve.

Failing these, a thin solution of glue or of gum arabic may be used to harden the edges of the bone, but in no circumstances must a thick one be used. Another method is to use some form of wax, melted and applied liquid, and then allowed to harden. If this method is used it is not absolutely necessary to separate the broken bone, as the wax holds each piece firmly in position, and prevents any chance of the edges rubbing together.

Only bones that have become soft or fragile and liable to crumble need be treated at all; bones that have retained a high percentage of animal fats do not need it.

PAPER SQUEEZES

Squeezes are copies of sculptured or engraved objects, made by pressing moist paper on the carved surface, of which, when dry, the paper mould retains the exact form and texture.

Requisites for taking squeezes are (1) tough paper unsized; (2) a stiff bristle-brush; (3) a scrubbing brush; (4) a vessel of water.

Special paper is made for this purpose and is strongly recommended. It is supplied in rolls, like wall-paper, and is best carried in cylindrical tin boxes, which serve also to

transport finished squeezes ; note, however, that the squeezes will be much more bulky than the paper was. But any tough, thick, wrapping paper will do, such as plant-collectors or orange-packers use ; and newspaper may be used, though it needs care and patience. The best forms of brush are (a) a clothes brush with thickset bristles and long handle ; (b) less expensive, the long narrow one made for washing carriage wheels ; (c) in emergency, an old nail-brush or stiff hair-brush will serve. Squeeze-making wears out some brushes very quickly ; but with a long handle, labour is saved, and the brush itself lasts longer. For deep carvings it is good to have several brushes of different widths and shapes. A shallow bath, large enough to hold a whole sheet of paper, is convenient, but not necessary ; good paper can bear some unfolding after it is wetted, and can always be refreshed by sprinkling with the brush or a handful of water.

The process is a simple one. Sweep off all loose debris and dust. Then wash the sculptured surface, removing every trace of sticky clay, etc. This is essential, as a dirty squeeze is difficult to decipher, and of little value for publication. But use the scrubbing brush gently until it is certain that the surface of the stone is in good condition. Especial care should be taken with surfaces recently excavated, and with all sand-stones, and absorbent limestones. Leave enough water on, to hold the paper by capillary attraction. Squeezes of large monuments must be made in sections, taking care that the edges of each section overlap their neighbours, to allow for trimming and fitting. As a rule, let the paper remain on till quite dry ; it will then be easy to release without using force, and without distortion. Before a squeeze is detached from the stone, write on it a serial number and enter this in your notebook ; it is a further aid to identification if locality and date are added, as a squeeze looks very different from the original.

Difficulties.—Limestone is often too absorbent, and will not leave water on the surface to hold the paper. If the face is upright the paper must be held up along the top edge, beaten on quickly, and then lifted off the stone and laid to dry on a

flat surface, such as smooth sand. If the sculpture is too polished and smooth for the paper to get any hold, it draws out of the hollows when it begins to contract in drying, and fails to obtain an impression from low relief. If this happens, lift it off (as soon as it begins to dry) by peeling it from one edge (holding the other corners), and lay it flat till it is dry. Wind is the greatest trouble; on this account, never use larger paper than is necessary, and sometimes beat it on temporarily at the edges, that it may hold until you have done the rest and can lift and re-beat the edge finally. It may be necessary to plaster the edges down with a little mud. It is always well to beat the edges on very thoroughly in finishing, to prevent the paper being blown up while drying. After the paper has been beaten in, stamp-edgings or adhesive binding-strips are useful to prevent it from peeling off at the edges. If the surface overhangs, strings across it are useful. Cracks which disfigure the design, or deep under-cutting which is not essential to it, may be partly filled up with clay or sodden paper, before the squeeze is begun. Full measurements should be taken of the monument itself, in case the squeeze should be distorted accidentally, either in taking it off the original or afterwards. Torn squeezes may be mended with strips of the squeeze-paper, and paste or barley-gruel; if the paper splits over prominences, or in deep grooves, patches of squeeze-paper, well soaked, may be applied and beaten in till they adhere. These patches necessarily take longer to dry.

Packing.—When dry, squeezes may safely be packed tight together in a box or crate, or rolled up if they represent flat surfaces. Such rolls are conveniently stored in cylindrical tin boxes, which any tinsmith can make.

Squeezes must be kept dry, and are liable to absorb moisture in damp atmosphere, especially if the stone has yielded any salt during the process. To extract salt, a squeeze may be soaked in a tray of water, but this risks disfigurement. In a very moist climate, squeezes may be waterproofed by giving them, when once dried, a coat of boiled linseed oil; apply this hot, and use a soft brush.

Reproductions.—When a cast is required, heat the squeeze

on a stove and brush over with beeswax, or solid paraffin (or candle-grease in an emergency) enough to choke the grain, but not to efface it. Then plaster may be cast on it, taking care that it does not run round the edges. Support the mould well, lest the weight of the plaster distort it.

A photograph, tracing, or drawing usefully supplements a squeeze ; and if the surface of the stone be smooth enough, a *rubbing* with heel-ball may be made. The simplest and quickest method of making a rubbing is to use moist grass or leaves in place of heel-ball. For rubbings, common Japanese paper is the best ; it is very strong, and not being sized, it is not much affected by damp.

Another method of making incised ornaments more distinct is to dab the smooth surface, while it is drying upon the stone, with water-colour mixed with a little gum or size, applied with a porous pad (a sponge, rolled sock, or rag stuffed with leaves). The colour must not be so copious as to flood the incisions, which should remain white on a coloured ground.

For publication, squeezes should be photographed on the side which was next the stone ; the negative thus produced is, of course, reversed, but this can be corrected in making the print. The light must fall on the squeeze so as to give the relief correctly on the print. It is customary to arrange that the lighting should be from the upper left-hand corner. When this normal lighting does not show all essential details, the illumination used should be specially recorded.

A SHORT LIST OF USEFUL BOOKS

GENERAL TREATISES.

- Boas, F.—*The Mind of Primitive Man*. 1911.
 Kroeber, A. L.—*Anthropology*. 1923.
 Lowie, E. H.—*Culture and Ethnology*. 1917.
 Marett, R. R.—*Anthropology*. (Home University Library.)
 1912.
 Tylor, Sir E. B.—*Anthropology*. 1881.
 „ „ *Primitive Culture*. Fifth ed., 1921.

PHYSICAL ANTHROPOLOGY.

- British Museum (Natural History).—*Guide to the Specimens illustrating the Races of Mankind*. Fourth ed., 1921.
 Deniker, J.—*Les Races et les Peuples de la Terre*. Second ed., 1926.
 Haddon, A. C.—*The Races of Man* (revised ed.), 1929.
 Smith, G. Elliot.—*Essays on the Evolution of Man*. Second ed., 1927.
 Keith, Sir Arthur.—*The Antiquity of Man*. Second ed., 1925.

CULTURAL ANTHROPOLOGY.

- Frazer, Sir J. G.—*The Golden Bough* (abridged ed.), 1922.
 Goldenweiser, A. A.—*Early Civilization*. 1922.
 Hartland, E. S.—*Primitive Law*. 1924.
 Lowie, R. H.—*Primitive Society*. 1921.
 „ „ *Primitive Religion*. 1925.
 Malinowski, B.—*Crime and Custom in Savage Society*. 1926.
 „ „ *Myth in Primitive Psychology*. 1926.
 Pitt-Rivers, G. H. L.—*The Clash of Culture and the Contact of Races*. 1927.
 Rivers, W. H. R.—*Social Organization*. 1924.
 Tozzer, A. M.—*Social Origins and Social Continuities*. 1925.

MATERIAL CULTURE.

British Museum.—*Handbook to the Ethnographical Collections*
Second ed., 1925.

Dixon, R. B.—*The Building of Cultures*. 1928.

Haddon, A. C.—*Evolution in Art*. 1895.

Harrison, H. S.—*Handbooks of the Horniman Museum*.
(From Stone to Steel; War and the Chase;
The Evolution of the Domestic Arts,
Pts. I and II; Travel and Transport;
1923—1929. 6d. each.)

Mason, O. T.—*The Origins of Invention*. 1895.

Roth, W. E.—*Arts and Crafts of the Guiana Indians*. 1924.
(*Annual Report, Bureau of American Ethnology*, No. 38.)

AS EXAMPLES OF METHOD IN FIELD-WORK.

Brown, A. R.—*The Andaman Islanders*. 1922.

Firth, R. W.—*Primitive Economics of the New Zealand Maori*.
1929.

Junod, H. A.—*The Life of a South African Tribe*. Second ed.,
1927.

Malinowski, B.—*Argonauts of the Western Pacific*. 1922.

„ *The Sexual Life of Savages in North-Western
Melanesia*. 1929.

Mills, J. P.—*The Lhota Nagas*. 1922.

Rivers, W. H. R.—*The Todas*. 1906.

Seligmann, C. G. and B. Z.—*The Veddas*. 1911.

Smith, E. W. and Dale, A. M.—*The Ila-Speaking Peoples of
N. Rhodesia*. 1920.

Spencer, Sir B., and Gillen, F. J.—*The Arunta*. 1927.

It is suggested that if any books are taken into the field,
preference should be given to a selection made from those
listed here.

SPECIAL AREAS OR PEOPLES.

The books and papers on particular areas or peoples are so
numerous that it is impracticable to give a list that would meet

the requirements of those who may be working in any region of the earth. Investigators in any one area are recommended to apply for guidance to Professors, Lecturers, and Museum Curators in London, Oxford, Cambridge, or elsewhere, to any known specialist, or to the Librarian of the Royal Anthropological Institute, 52 Upper Bedford Place, Russell Square, London, W.C.1. Any of these will be pleased to give the information required.

The following journals contain articles of general or special importance :—

Journal of the Royal Anthropological Institute.

Man.

The American Anthropologist.

L'Anthropologie. (The notices under heading "Mouvement scientifique" are a valuable feature.)

Zeitschrift für Ethnologie.

Internationales Archiv für Ethnographie.

Anthropos.



METRICAL MEASUREMENTS

AND THEIR EQUIVALENTS IN INCHES AND HALF-INCHES.

mm.	inch	mm.	inch.	mm.	inch	mm.	inch
6	$= \frac{1}{4}$	495	$= 19\frac{1}{2}$	1004	$= 39\frac{1}{2}$	1512	$= 59\frac{1}{2}$
13	$= \frac{1}{2}$	508	$= 20$	1016	$= 40$	1524	$= 60$
19	$= \frac{3}{4}$	521	$= 20\frac{1}{2}$	1029	$= 40\frac{1}{2}$	1537	$= 60\frac{1}{2}$
25	$= 1$	534	$= 21$	1042	$= 41$	1550	$= 61$
38	$= 1\frac{1}{2}$	546	$= 21\frac{1}{2}$	1055	$= 41\frac{1}{2}$	1562	$= 61\frac{1}{2}$
51	$= 2$	559	$= 22$	1067	$= 42$	1575	$= 62$
64	$= 2\frac{1}{2}$	571	$= 22\frac{1}{2}$	1080	$= 42\frac{1}{2}$	1588	$= 62\frac{1}{2}$
76	$= 3$	584	$= 23$	1093	$= 43$	1601	$= 63$
89	$= 3\frac{1}{2}$	597	$= 23\frac{1}{2}$	1105	$= 43\frac{1}{2}$	1613	$= 63\frac{1}{2}$
101	$= 4$	610	$= 24$	1118	$= 44$	1626	$= 64$
114	$= 4\frac{1}{2}$	622	$= 24\frac{1}{2}$	1131	$= 44\frac{1}{2}$	1639	$= 64\frac{1}{2}$
127	$= 5$	635	$= 25$	1144	$= 45$	1651	$= 65$
140	$= 5\frac{1}{2}$	648	$= 25\frac{1}{2}$	1156	$= 45\frac{1}{2}$	1664	$= 65\frac{1}{2}$
152	$= 6$	661	$= 26$	1169	$= 46$	1677	$= 66$
165	$= 6\frac{1}{2}$	673	$= 26\frac{1}{2}$	1181	$= 46\frac{1}{2}$	1690	$= 66\frac{1}{2}$
178	$= 7$	686	$= 27$	1194	$= 47$	1702	$= 67$
190	$= 7\frac{1}{2}$	699	$= 27\frac{1}{2}$	1207	$= 47\frac{1}{2}$	1715	$= 67\frac{1}{2}$
203	$= 8$	711	$= 28$	1220	$= 48$	1728	$= 68$
216	$= 8\frac{1}{2}$	724	$= 28\frac{1}{2}$	1232	$= 48\frac{1}{2}$	1740	$= 68\frac{1}{2}$
228	$= 9$	737	$= 29$	1245	$= 49$	1753	$= 69$
241	$= 9\frac{1}{2}$	750	$= 29\frac{1}{2}$	1258	$= 49\frac{1}{2}$	1766	$= 69\frac{1}{2}$
254	$= 10$	762	$= 30$	1270	$= 50$	1778	$= 70$
267	$= 10\frac{1}{2}$	775	$= 30\frac{1}{2}$	1283	$= 50\frac{1}{2}$	1791	$= 70\frac{1}{2}$
279	$= 11$	788	$= 31$	1296	$= 51$	1804	$= 71$
292	$= 11\frac{1}{2}$	800	$= 31\frac{1}{2}$	1309	$= 51\frac{1}{2}$	1817	$= 71\frac{1}{2}$
305	$= 12$	813	$= 32$	1321	$= 52$	1829	$= 72$
318	$= 12\frac{1}{2}$	826	$= 32\frac{1}{2}$	1334	$= 52\frac{1}{2}$	1842	$= 72\frac{1}{2}$
330	$= 13$	838	$= 33$	1347	$= 53$	1855	$= 73$
343	$= 13\frac{1}{2}$	851	$= 33\frac{1}{2}$	1359	$= 53\frac{1}{2}$	1867	$= 73\frac{1}{2}$
356	$= 14$	864	$= 34$	1372	$= 54$	1880	$= 74$
368	$= 14\frac{1}{2}$	877	$= 34\frac{1}{2}$	1385	$= 54\frac{1}{2}$	1893	$= 74\frac{1}{2}$
381	$= 15$	889	$= 35$	1397	$= 55$	1905	$= 75$
394	$= 15\frac{1}{2}$	902	$= 35\frac{1}{2}$	1410	$= 55\frac{1}{2}$	1918	$= 75\frac{1}{2}$
406	$= 16$	915	$= 36$	1423	$= 56$	1931	$= 76$
419	$= 16\frac{1}{2}$	927	$= 36\frac{1}{2}$	1436	$= 56\frac{1}{2}$	1943	$= 76\frac{1}{2}$
432	$= 17$	940	$= 37$	1448	$= 57$	1956	$= 77$
444	$= 17\frac{1}{2}$	953	$= 37\frac{1}{2}$	1461	$= 57\frac{1}{2}$	1969	$= 77\frac{1}{2}$
457	$= 18$	966	$= 38$	1474	$= 58$	1981	$= 78$
470	$= 18\frac{1}{2}$	978	$= 38\frac{1}{2}$	1486	$= 58\frac{1}{2}$	1994	$= 78\frac{1}{2}$
482	$= 19$	991	$= 39$	1499	$= 59$	2000	$= 78\frac{3}{4}$

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